

warning level: **CALM**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 400



**General Situation during January 2012
Forecast until mid-March 2012**

(2 Feb 2012)

The Desert Locust situation continued to remain calm in January. Small-scale breeding occurred in parts of southeast Algeria, southwest Libya and northern Niger. Limited ground control operations were carried out in Algeria. Very few locusts were present in the winter breeding areas along both sides of the Red Sea and Gulf of Aden because of poor rainfall and dry vegetation. Only scattered adults were reported in Sudan and Saudi Arabia. During the forecast period, breeding will end in the winter breeding areas but limited breeding could continue along the Algerian-Libyan border and in northern Niger. Close monitoring is required in these three countries. Spring breeding may commence in Baluchistan of western Pakistan and southeast Iran if good rains fall in February and March. No significant developments are likely.

Western Region. Mainly dry conditions prevailed during January and very little rain fell except in Niger and in the northern Sahara in Algeria. Very localized small-scale breeding occurred in southwest Libya and, to a lesser extent, in southeast Algeria and northern Niger. Small patches of gregarious hoppers formed in Libya and control operations were being organized. In Algeria, ground teams treated 85 ha. Elsewhere, isolated adults may be present in parts of northwest Mauritania and in northern Mali but surveys were not carried out to confirm this. During the forecast period, breeding may continue in currently infested areas although more rains must fall before

locusts increase in number. All efforts are required to monitor the situation closely in Algeria, Libya and Niger.

Central Region. Low numbers of solitary adults persisted during January in a few places of the winter breeding areas along both sides of the Red Sea in Sudan and Saudi Arabia. Similar populations may be present in coastal areas of Eritrea, Yemen and eastern Oman. No locusts were reported in Egypt, Ethiopia and northern Somalia. During the forecast period, small-scale breeding may occur during February along both sides of the Red Sea and on the eastern coast of Oman but this will decline from March onwards unless further rains fall. No significant developments are likely in the region.

Eastern Region. Dry conditions prevailed throughout the region during January. Isolated solitary adults were seen at one place on the coast in western Pakistan. Small-scale breeding is likely to take place in the spring breeding areas of western Pakistan and southeast Iran if light to moderate rains fall during the forecast period. Nevertheless, locust numbers will remain low and below threatening levels. No locusts were seen during routine surveys in western India. No significant developments are likely in the region.

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 are available on the Internet.

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DESERT LOCUST BULLETIN



Weather & Ecological Conditions in January 2012

Although very little rain fell during January, ecological conditions remained favourable for limited breeding in parts of Algeria, southwest Libya, northern Niger, the Red Sea coast in Sudan and Saudi Arabia, and the eastern coast in Oman.

In the **Western Region**, very little rain fell during January and temperatures were low throughout the northern Sahel and the Sahara. During the second decade, light rain fell in the northern Sahara between Bechar, Algeria and Ghadames, Libya. Good rains also fell on the western edge of the Ténéré Desert north of Adrar Madet in northern Niger. As a result, ecological conditions may become favourable for breeding in the above-mentioned areas. In Algeria, breeding conditions remained favourable in the southern Sahara west and southeast of the Hoggar Mountains and in the central Sahara near agricultural areas of Adrar. Elsewhere in the region, ecological conditions remained generally dry and unfavourable for breeding except for a few localized areas of green vegetation in central and northwest Mauritania and in Timetrine and southern Tamesna in Mali.

In the **Central Region**, very little rain fell during January in the winter breeding areas along both sides of the Red Sea and Gulf of Aden where mainly dry conditions prevailed. Nevertheless, vegetation continued to be green in the Tokar Delta in Sudan and on the central Red Sea coast near Qunfidah, Saudi Arabia from earlier rains. Light rain fell over the southern coast in Sudan in mid-January and vegetation was greening up between Aqiq and Karora. Vegetation was also becoming green on the central coast in Eritrea (Akbanazouf Plain and runoff areas south of Embere) but remained dry in southeast Egypt (Shalatyn to Halaib), elsewhere in Sudan and Saudi Arabia, and on the escarpment and plateau in northern Somalia. Local areas of green vegetation were probably present along parts of the Red Sea coast in Yemen. Although only light showers may have fallen during the second decade of January in central Oman between Marmul and Hayma, ecological conditions remained favourable for limited breeding

along the eastern coast between Sur and Jazeer from rains that fell in late October and early November.

In the **Eastern Region**, no significant rain fell during January in the spring breeding areas of Baluchistan in western Pakistan and southeast Iran. Consequently, mainly dry conditions prevailed except for a few places along the southeastern coastal plains in Iran where vegetation was becoming green near Jask and Chabahar.



Area Treated

Algeria 85 ha (January)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

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

• FORECAST

Isolated adults may be present in parts of northern Trarza, Inchiri and southwest Adrar where breeding is unlikely unless good rains occur during the forecast period.

Mali

• SITUATION

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

• FORECAST

Low numbers of adults may be present and could persist in the few areas that remain green in the north. No significant developments are likely.

Niger

• SITUATION

During the second half of January, isolated third to fifth instar solitarious hoppers and fledglings were seen at two places in the western Ténéré Desert northwest of Fachi (1806N/1134E), and scattered immature solitarious and *transiens* adults at densities up to 700 adults/ha were seen at four places. A few individual *transiens* hoppers were reported at one location. Isolated immature adults were seen on the edge of the Ténéré near Adrar Madet (1843N/1022E). In the eastern Air Mountains, isolated third instar solitarious hoppers and immature adults were present

at one place northeast of Timia (1809N/0846E).

- **FORECAST**

Low numbers of adults will persist in the Air Mountains and the western edge of the Ténéré where small-scale breeding could occur in areas of recent rainfall, causing locust numbers to increase.

Chad

- **SITUATION**

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

- **FORECAST**

No significant developments are likely.

Senegal

- **SITUATION**

No surveys were carried out and no locusts were reported in 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, fifth instar hoppers at densities of 3-6 hoppers/bush and immature solitary and *transiens* adults at densities of 400-700 adults/ha were present at one place about 130 km west of Djanet (2434N/0930E) in the Bordj El Haoues area. Ground teams treated 85 ha. No locusts were seen during surveys carried out near Adrar (2753N/0017W), Tindouf (2741N/0811W), and northeast of Tamanrasset (2250N/0528E).

- **FORECAST**

Scattered adults are likely to persist in areas that remain green near Illizi and Djanet. If further rains fall, small-scale breeding will occur, causing locust numbers to increase and perhaps a few small groups to form.

Morocco

- **SITUATION**

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

- **FORECAST**

Isolated adults may be present in the extreme south of the Western Sahara. Low numbers of adults could appear south of the Atlas Mountains in the Draa and adjacent valleys during March. No significant developments are likely.

Libya

- **SITUATION**

In early January, small patches of second to fourth instar *transiens* and gregarious hoppers were seen in three wadis in the southwest near the Algerian border about 65 km northwest of Ghat (2459N/1011E). Hopper densities varied from 200-400 hoppers/bush to 3-5 hoppers/m² and infested areas were 100-300 m² in size. The infestations are a result of local breeding that occurred at the end of last year. All efforts are underway to try to carry out the necessary survey and control operations.

- **FORECAST**

Scattered adults are likely to persist in areas that remain green near Ghat, concentrate and form small groups or move northwards to Ghadames and Al Hamada Al Hamra. If rains fall during the forecast period, small-scale breeding could occur, causing locust numbers to increase and small groups to form.

Tunisia

- **SITUATION**

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

- **FORECAST**

No significant developments are likely.

CENTRAL REGION

Sudan

- **SITUATION**

During January, mature solitary adults were present, at densities up to 150 adults/ha, at a few places on the Red Sea coast in the Tokar Delta and on the southern plains near Aqiq (1813N/3811E) and Aiterba (1753N/3819E) as well as on the western side of the Red Sea Hills east of Tomala (2002N/3551E). No locusts were seen north of Tomala in Wadi Diib/Oko.

- **FORECAST**

Small-scale breeding may occur in areas of green vegetation on the southern coast between Suakin and the Eritrean border, including the Tokar Delta, during February. Unless further rains fall, breeding is less likely to occur in the north, and will come to an end in the south from March onwards. No significant developments are likely.



No. 400



No. 400

DESERT LOCUST BULLETIN

Eritrea

- SITUATION

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 Massawa and the Sudanese border. Unless further rains fall, breeding is not expected to occur.

Ethiopia

- SITUATION

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

- FORECAST

No significant developments are likely.

Djibouti

- SITUATION

No reports were received during January.

- FORECAST

No significant developments are likely.

Somalia

- SITUATION

In January, no locusts were seen during a survey on the escarpment and plateau between Boroma (0956N/4313E), Burao (0931N/4533E) and the Ethiopian border.

- FORECAST

Small-scale breeding could occur on the northwest coast if rain falls during the forecast period. No significant developments are likely.

Egypt

- SITUATION

During January, no locusts were seen on the Red Sea coast between Abu Ramad (2224N/3624E) and Halaib (2213N/3638E), in the Red Sea Hills west of Berenice (2359N/3524E), along the Lake Nasser shoreline near Abu Simbel (2219N/3138E) and Tushka (2247N/3126E), and in the northwest on the Mediterranean coast near Salum (3131N/2509E).

- FORECAST

Isolated adults may appear on the Red Sea coastal plains between Shalatyn and Halaib. If rains occur, small-scale breeding will cause locust numbers to increase slightly but remain below threatening levels.

Saudi Arabia

- SITUATION

During January, isolated immature solitary adults were seen at a few places on the Red Sea coast near Qunfidah (1909N/4107E). No locusts were seen elsewhere on the coast near Jeddah (2130N/3910E) and Lith (2008N/4016E) or in the interior.

- FORECAST

Isolated adults are likely to persist near Qunfidah. Unless further rains fall, breeding is not expected to occur along the Red Sea coastal plains.

Yemen

- SITUATION

No reports were received during January.

- FORECAST

Low numbers of adults are likely to be present along parts of the Red Sea coastal plains. Unless further rains fall, breeding is not expected to occur.

Oman

- SITUATION

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

- FORECAST

Low numbers of adults may be present along parts of the eastern coast between Jazeer and Sur and along the eastern edge of the Wahiba Sands. Small-scale breeding could occur in areas of previous rainfall or if more rains fall during the forecast period.

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 January, no locusts were seen on the southeastern coast from Jask (2540N/5746E) to the Pakistani border.

- FORECAST

Low numbers of locusts may appear on the southeastern coastal plains between Jask and Chabahar, and breed on a small scale in areas that receive rainfall.

Pakistan

- SITUATION

During the first half of January, isolated mature solitary adults were seen on the coast of Baluchistan near Uthal (2548N/6637E).

- Forecast

Low numbers of locusts will persist near Uthal and

may appear in other coastal areas between Jiwani and Ormara, and breed on a small scale if rainfall occurs.

India

• SITUATION

No locusts were seen during surveys carried out in Rajasthan and Gujarat in January.

• FORECAST

No significant developments are likely.

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 (eclo@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.

Locust tools and resources. FAO has developed a number of tools that National locust information officers and other interested individuals can use for Desert Locust early warning and management:

- **MODIS.** Vegetation imagery every 16 days (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/.Locusts/.Regional/.MODIS/index.html)

- **RFE.** Rainfall estimates every day, decade and month (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/.Locusts/index.html)
- **Greenness maps.** Dynamic maps of green vegetation evolution every decade (<http://www.devcoast.eu/user/images/dl/Form.do>)
- **FAODLIS Google site.** A platform for sharing problems, solutions, tips and files for eLocust2, eLocust2Mapper, RAMSES and remote sensing (<https://sites.google.com/site/faodlis>)
- **FAOLOCUS T Twitter.** The very latest updates are posted on Twitter (<http://twitter.com/faolocust>)
- **FAOLocust Facebook.** A social means of information exchange using Facebook (<http://www.facebook.com/pages/FAOLocust/314165595289302>)
- **Slideshare.** Locust presentations and photos available for viewing and download (<http://www.slideshare.net/faolocust>)
- **eLERT.** A dynamic and interactive online database of resources for locust emergencies (<http://sites.google.com/site/elertsite>)

SWAC website. A new website for the FAO Commission for Controlling the Desert Locust in South-West Asia (SWAC) is now available at <http://www.fao.org/ag/locusts/SWAC>. Comments are welcome.

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

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

2012 events. The following activities are scheduled or planned:

- **CLCPRO.** 6th Session and 7th Executive Committee meeting, Tunis, Tunisia (26-31 March)
- **SWAC/CRC.** Inter-regional national locust information officer workshop, Cairo, Egypt (17-18 April)
- **CRC.** 7th Sub-regional training course, Amman, Jordan (6-15 May)
- **DLCC.** 40th Session (tbc)
- **SWAC.** 28th Session, New Delhi, India (December, tbc)



No. 400

DESERT LOCUST BULLETIN



No. 400

DESERT LOCUST BULLETIN



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.



No. 400

DESERT LOCUST BULLETIN

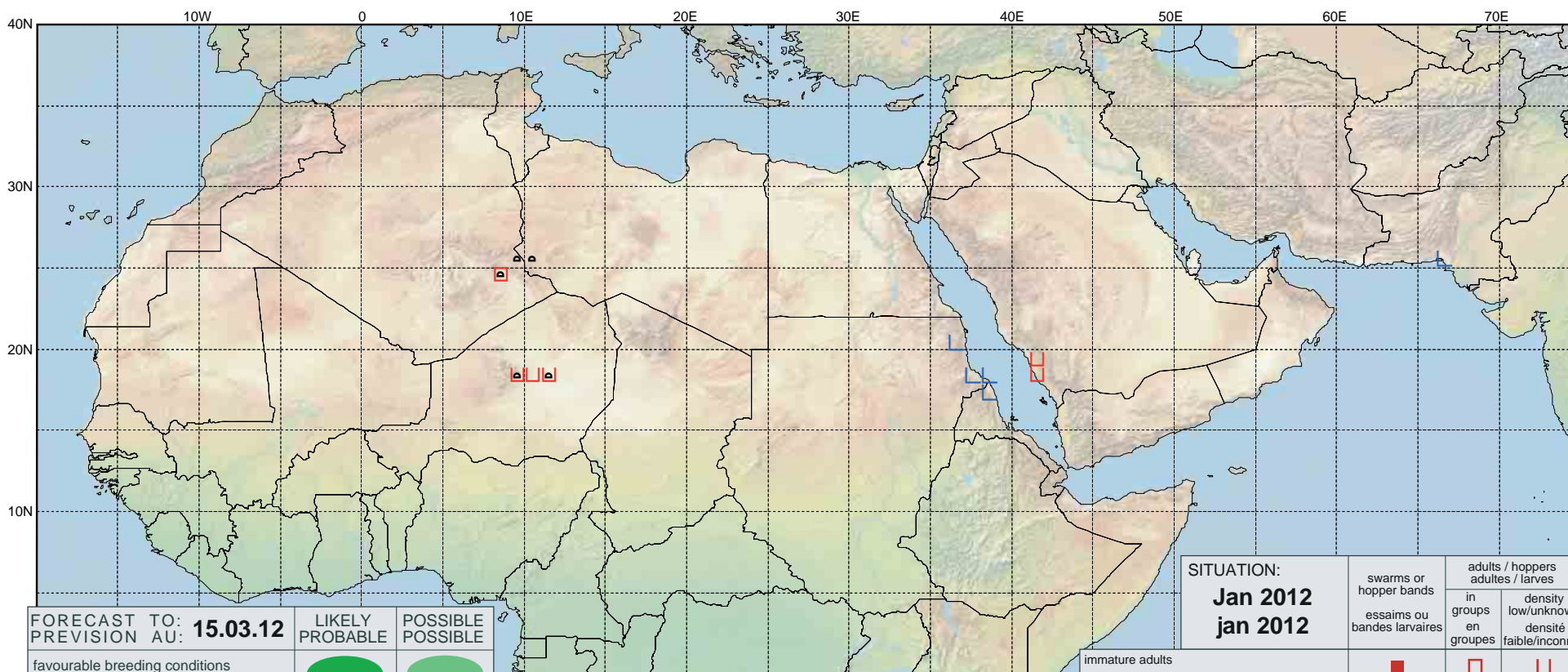
page **7** of 8



Desert Locust Summary

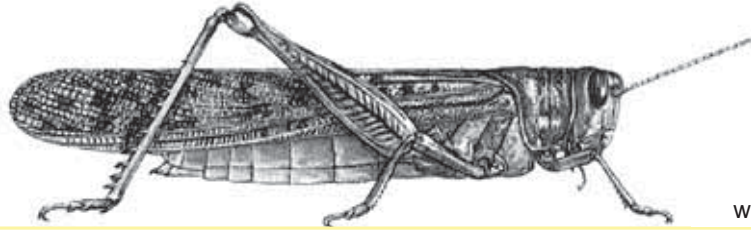
Criquet pèlerin - Situation résumée

400



FORECAST TO: PREVISION AU:	LIKELY PROBABLE	POSSIBLE POSSIBLE
15.03.12		
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 2012 jan 2012	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)			



warning level: **CAUTION**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 401



**General Situation during February 2012
Forecast until mid-April 2012**

(2 Mar 2012)

A Desert Locust outbreak developed in early February in southwest Libya. Some adults moved into adjacent areas of southeast Algeria where local infestations were already present. Survey and control operations were limited due to insecurity in both areas. Good rains that fell in both countries will allow a second generation of breeding to occur during March and April. This is expected to cause locust numbers to increase dramatically and hopper bands to form. Scattered adults arriving from northern Niger may augment local populations. All efforts are required to monitor the situation carefully and undertake the necessary control operations to avoid a further escalation in the situation. Elsewhere, there was very little locust activity in the winter breeding areas along both sides of the Red Sea due to poor rainfall and dry conditions. In South-West Asia, small-scale breeding is expected to occur during the forecast period in western Pakistan and southeastern Iran but locust numbers will remain below threatening levels.

Western Region. An outbreak developed in early February in southwest Libya near the Algerian border as a result of good rains in October 2011 and undetected breeding at the end of the year. Hoppers and adults concentrated, gregarized and formed small groups and a few small bands and swarms. Some of the adults moved into adjacent areas of southeastern Algeria where local breeding was already underway

near Djanet. National ground teams treated 2,365 ha in Libya and 230 ha in Algeria during February. Good rains fell over a large area at mid-month and high-density adult groups were seen copulating. Consequently, a second generation of breeding will occur with hatching and hopper band formation during March and April. This is expected to cause locust numbers to increase dramatically in Libya and, to a lesser extent, in Algeria. The situation is not entirely clear because of insecurity and access difficulties on both sides of the border that hamper survey and control operations. In northern Niger, scattered adults that are likely to be present in the Air Mountains may move into southern Algeria during March. No locusts were reported elsewhere in the region.

Central Region. Vegetation continued to dry out in the winter breeding areas along both sides of the Red Sea due to a lack of rain during February. Nevertheless, breeding conditions were favourable on the southern coast in Sudan where scattered adults were present and laying eggs, and on the central Red Sea coast in Yemen. Isolated adults were present in northern Oman. No locusts were seen during surveys in Egypt and Saudi Arabia. During the forecast period, limited hatching will occur in Sudan but no significant developments are expected as vegetation continued to dry out.

Eastern Region. Breeding conditions slowly improved in parts of the spring breeding areas in western Pakistan due to light to moderate rains during February. Only isolated mature adults were present at a few places on the coast. During the forecast period, locusts are expected to appear in coastal and interior areas of western Pakistan and southeastern Iran. Small-scale breeding will occur in areas that receive rainfall, causing locust numbers to increase slightly but remain below threatening levels. No locusts were seen during routine surveys in Rajasthan, India.

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 are available on the Internet.

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No. 401

DESERT LOCUST BULLETIN



Weather & Ecological Conditions in February 2012

Good rains in mid-February will allow ecological conditions to remain favourable for breeding along both sides of the Algerian-Libyan border. Vegetation was becoming green in a few localized areas of the northern Sahel in West Africa and in parts of the spring breeding areas in South-West Asia. Mainly dry conditions prevailed in the winter breeding areas along both sides of the Red Sea.

In the **Western Region**, breeding conditions were favourable during February in southwest Libya and southeast Algeria where good rains fell in early October 2011 and again on 18-19 February. Consequently, vegetation remained green northwest of Ghat, Libya and east of Illizi, Algeria. Vegetation was becoming green in several wadis on the southern side of the Hoggar Mountains northwest of Djanet, and south of the Atlas Mountains west of Beni Abbes. In the northern Sahel, light rain may have fallen at times over western and central Mauritania and on the western edge of the Ténéré Desert in Niger near Adrar Madet. In northwest Mauritania, vegetation was becoming green on the northern side of Guelb Richât, and in the main wadis to the south and west of Oujeft. In northern Mali, vegetation was becoming green in the interdunal areas some 200 km northwest of Taoudenni and in a few places of the Adrar des Iforas near Kidal, Aguelhoc and Tessalit. In Niger, vegetation was becoming green in the eastern Tamesna between Tegguidda and Agadez, and in the main wadis of the Air Mountains.

In the **Central Region**, no significant rain fell during February. Consequently, mainly dry conditions persisted in the winter breeding areas along both sides of the Red Sea except for the central Tihama coast of Yemen where vegetation remained green. In central Oman, green vegetation was present between Hayma and the Arabian Sea at Duqm.

In the **Eastern Region**, light to moderate rain fell at times during the first half of February in parts of the spring breeding areas in western Pakistan near Turbat and Pasni. Vegetation was becoming green along the coast between Gwadar and Ormara, in Turbat Valley,



Area Treated

Algeria	230 ha (February)
Libya	2,365 ha (February)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

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

• FORECAST

Isolated adults may be present in parts of northern Trarza, Inchiri and southwest Adrar where breeding is unlikely unless good rains occur during the forecast period.

Mali

• SITUATION

No surveys were carried out and no locusts were reported in February.

• FORECAST

Low numbers of adults may be present and could persist in the few areas that remain green in the north. No significant developments are likely.

Niger

• SITUATION

No surveys were carried out and no locusts were reported in February.

• FORECAST

Low numbers of adults are likely to be present and will persist in the Air Mountains and the western edge of the Ténéré. Small-scale breeding may occur in areas of recent rainfall and cause locust numbers to increase. There is a moderate risk that some adults could move north to southern Algeria.

Chad

• SITUATION

No surveys were carried out and no locusts were reported in February.

• FORECAST

No significant developments are likely.

Senegal

• SITUATION

No reports were received during February.

• 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

On 8-9 February, an increasing number of immature solitary adults appeared on the Libyan border in W. Tarat (2610N/0923E) and to the northwest near Illizi (2630N/0825E) at densities of 5,000-7,000 adults/ha. Mature solitary adults were seen in the southern Sahara southeast of Tamanrasset (2250N/0528E). During the last decade of the month, mature *transiens* adults were seen copulating on the southern side of the Hoggar Mountains in the Bordj El Haoues area west of Djanet (2434N/0930E) where local breeding occurred in January. During February, control teams treated 200 ha near Illizi and 30 ha near Bordj El Haoues. No locusts were seen near Adrar (2753N/0017W) and Tindouf (2741N/0811W).

• FORECAST

Small-scale breeding will cause locust numbers to increase near Illizi, Djanet and Tamanrasset. Hatching is expected to commence before the end of March and hoppers are likely to form small groups and perhaps bands. This may be augmented by low numbers of adults arriving from northern Niger. Scattered adults may also appear near Adrar, Tindouf and Beni Abbes and breed on a limited scale if rainfall occurs.

Morocco

• SITUATION

No surveys were carried out and no locusts were reported in February.

• FORECAST

Low numbers of adults may appear south of the Atlas Mountains in the Draa and adjacent valleys during March and breed on a small scale if rainfall occurs. No significant developments are likely.

Libya

• SITUATION

An outbreak developed in early February in the southwest as solitary and gregarious hoppers and adults concentrated and formed small groups, causing locust densities and infestations to increase along the Algerian border northwest of Ghat (2459N/1011E). During the first week, mainly late instar hopper

groups and a few small bands as well as immature and maturing adult groups were present at densities up to 4,500 adults/ha. Infested areas varied from 10 m² to 1,000 ha. A small 1 km² maturing medium-density swarm was seen flying from east to west on 4 February and a small swarm crossed the Algerian border on the 6th. By mid-month, most of the hoppers had fledged and an increasing number of *transiens* and gregarious adult groups were seen copulating at densities up to 7,000 adults/ha. Ground teams treated 2,365 ha during February.

• FORECAST

Locust numbers are likely to increase dramatically as a second generation of hatching commences during March in the Ghat area. Hatchlings will probably form numerous small groups and bands. Additional infestations may be present in other parts of the west between Sabha and Ghadames.

Tunisia

• SITUATION

No surveys were carried out and no locusts were reported in February.

• FORECAST

No significant developments are likely.

CENTRAL REGION

Sudan

• SITUATION

During the first week of February, no locusts were seen during surveys carried out on the central and northern parts of the Red Sea coast from Port Sudan (1938N/3713E) to the Egyptian border and in Wadi Diib near Sufiya (2119N/3613E). During the second week, solitary mature adults were seen at a few places in Tokar Delta and along the southern coastal plains between Aqiq (1813N/3811E) and the Eritrean border at Karora (1745N/3820E). By the end of the month, some adults were seen copulating at densities up to 150 adults/ha.

• FORECAST

Limited hatching is expected to occur on the southern coastal plains in March that will cause locust numbers to increase slightly but remain below threatening levels.



No. 401



No. 401

DESERT LOCUST BULLETIN

Eritrea

- SITUATION

No reports were received during February.

- FORECAST

No significant developments are likely.

Ethiopia

- SITUATION

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

- FORECAST

No significant developments are likely.

Djibouti

- SITUATION

No reports were received during February.

- FORECAST

No significant developments are likely.

Somalia

- SITUATION

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

- FORECAST

No significant developments are likely.

Egypt

- SITUATION

During February, no locusts were seen on the Red Sea coast between Shalatyn (2308N/3535E) and Halaib (2213N/3638E), in the Red Sea Hills west of Berenice (2359N/3524E), along the Lake Nasser shoreline near Abu Simbel (2219N/3138E) and Tushka (2247N/3126E), and in the northwest on the Mediterranean coast near Salum (3131N/2509E).

- FORECAST

No significant developments are likely.

Saudi Arabia

- SITUATION

During February, no locusts were seen during surveys on the central Red Sea coast near Thuwal (2215N/3906E), in the Asir Mountains near Khamis Mushait (1819N/4245E) and in the interior.

- FORECAST

No significant developments are likely.

Yemen

- SITUATION

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

- FORECAST

Low numbers of adults are likely to be present in a few places along the central Tihama. Unless further rains fall, breeding is not expected to occur.

Oman

- SITUATION

During February, isolated immature solitary adults were present in the northern interior of Dhahera region near Ibri (2314N/5630E) at Tan'am (2307N/5629E). No locusts were seen in Musandam and Sharqiya regions.

- FORECAST

Low numbers of adults may be present along parts of the eastern coast between Jazeer and Sur and along the eastern edge of the Wahiba Sands. Small-scale breeding could occur in areas of previous rainfall or if more rains fall during the forecast period.

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 February, no locusts were seen on the southeastern coast between Jask (2540N/5746E) and Chabahar (2517N/6036E).

- FORECAST

Low numbers of locusts may appear on the southeastern coastal plains between Jask and Chabahar, and breed on a small scale in areas that receive rainfall.

Pakistan

- SITUATION

No surveys were carried out and no locusts were reported during the second half of January.

During February, isolated mature solitary adults were seen at two places on the coast of Baluchistan near Uthal (2548N/6637E). No locusts were seen elsewhere on the coast between Gwadar (2508N/6219E) and Ormara (2512N/6438E) or in the interior near Turbat (2600N/6303E), Panjgur (2658N/6406E), Kharan (2832N/6526E) and Nushki (2933N/6601E).

- Forecast

Low numbers of locusts will persist near Uthal and

are expected to appear in other coastal and interior areas, and breed on a small scale if rainfall occurs.

India

• SITUATION

No locusts were seen during surveys carried out in Rajasthan and Gujarat in February.

• FORECAST

No significant developments are likely.

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 (eclo@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.

Locust tools and resources. FAO has developed a number of tools that National locust information officers and other interested individuals can use for Desert Locust early warning and management:

- **MODIS.** Vegetation imagery every 16 days (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/.Regional/.MODIS/index.html)

- **MODIS.** Daily rainfall imagery in real time (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/index.html)
- **RFE.** Rainfall estimates every day, decade and month (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/index.html)
- **Greenness maps.** Dynamic maps of green vegetation evolution every decade (<http://www.devcoast.eu/user/images/dl/Form.do>)
- **FAODLIS Google site.** A platform for sharing problems, solutions, tips and files for eLocust2, eLocust2Mapper, RAMSES and remote sensing (<https://sites.google.com/site/faodlis>)
- **FAOLOCUST Twitter.** The very latest updates are posted on Twitter (<http://twitter.com/faolocust>)
- **FAOLocust Facebook.** A social means of information exchange using Facebook (<http://www.facebook.com/pages/FAOLocust/314165595289302>)
- **Slideshare.** Locust presentations and photos available for viewing and download (<http://www.slideshare.net/faolocust>)
- **eLERT.** A dynamic and interactive online database of resources for locust emergencies (<http://sites.google.com/site/elertsite>)

SWAC website. A new website for the FAO Commission for Controlling the Desert Locust in South-West Asia (SWAC) is now available at <http://www.fao.org/ag/locusts/SWAC>. Comments are welcome.

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

- **Desert Locust situation updates.** Archives Section – Briefs
- **Libya outbreak.** Information Section
- **Contacts.** Information Section – Contacts
- **FAO Locust Group.** Activities Section

2012 events. The following activities are scheduled or planned:

- **CLCPRO.** 6th Session and 7th Executive Committee meeting, Tunis, Tunisia (26-31 March)
- **SWAC/CRC.** Inter-regional national locust information officer workshop, Cairo, Egypt (18-19 April)



No. 401

DESERT LOCUST BULLETIN



No. 401

DESERT LOCUST BULLETIN

- **CRC.** 7th Sub-regional training course, Amman, Jordan (6-15 May)
- **DLCC.** 40th Session, Rome (18-22 June)
- **SWAC.** 28th Session, New Delhi, India (December, tbc)

Abdel Moneim Khidir. It is with deep regret that we announce the death of Abdel Moneim Khidir in January 2012. He had worked in the Locust Section of the Plant Protection Department in Sudan for some three decades as survey and control officer and, most recently, as head of the Locust Control Centre. We would like to express our sincere condolences to his family and government.



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.



No. 401

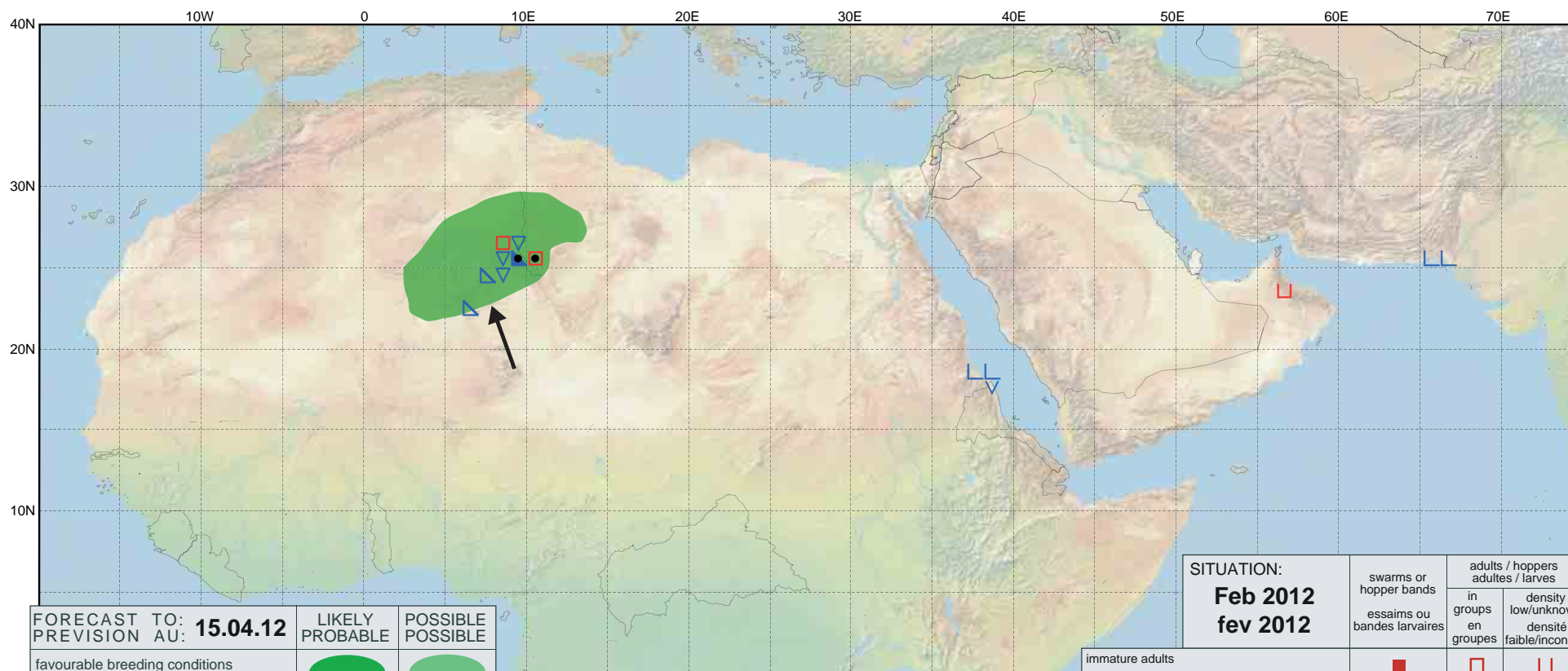
DESERT LOCUST BULLETIN

page 7 of 8



Desert Locust Summary

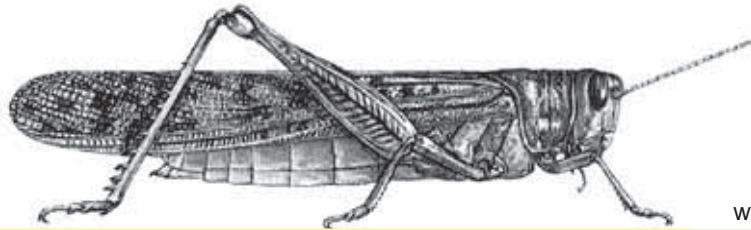
Criquet pèlerin - Situation résumée



FORECAST TO: PREVISION AU:	LIKELY PROBABLE	POSSIBLE POSSIBLE
15.04.12		
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: Feb 2012 fev 2012	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)			

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)			



warning level: **CAUTION**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 402



**General Situation during March 2012
Forecast until mid-May 2012**

(3 Apr 2012)

A Desert Locust outbreak continued during March in southwestern Libya and in adjacent areas of southeastern Algeria. Although national control teams in both countries treated 5,000 ha of groups of gregarizing adults that were laying eggs, locust numbers will almost certainly increase as hatching occurs and hopper bands form during April, especially in areas that are inaccessible. Scattered adults arriving from northern Niger may augment local populations. All efforts are required to monitor the situation carefully and undertake the necessary control operations to avoid a further escalation in the situation. Elsewhere, the situation remains calm. If more rains fall, small-scale breeding may occur in the spring breeding areas in Southwest Asia but locust numbers will remain below threatening levels.

Western Region. The Desert Locust outbreak that developed in early February in southwest **Libya** near the Algerian border continued during March. Additional infestations were found in adjacent areas of southeastern **Algeria**. In both countries, groups of gregarizing adults laid eggs throughout March but hatching was not reported yet. Ground teams treated 3,665 ha in Libya and 1,450 ha in Algeria. It is likely that additional infestations are present in other areas that cannot be accessed along both sides of the border. A second generation of hatching during April is expected to cause locust numbers to increase

dramatically in both countries. Hatchlings will probably form numerous small groups and bands. From about mid-May onwards, fledgling will occur and small groups of immature adults and swarms are likely to form. Although no locusts were reported elsewhere in the region, low numbers of adults may be present in northern **Niger** that could move north into southern Algeria.

Central Region. Vegetation continued to dry out in the winter breeding areas along both sides of the Red Sea due to a lack of rain in March. Consequently, only low numbers of solitary adults were present on the southern coast in **Sudan**. In northern **Oman**, isolated adults were seen at a few more places during March as compared to the previous month, and small-scale breeding could occur if rains fall in April. No locusts were seen during surveys in **Egypt, Eritrea, Ethiopia** and **Saudi Arabia**. No significant developments are likely during the forecast period.

Eastern Region. Breeding conditions continued to improve during March in parts of the spring breeding areas in western **Pakistan** and southeastern **Iran**. Only isolated adults were seen at two places on the coast in Pakistan. During the forecast period, locusts are expected to appear in coastal and interior areas of western Pakistan and southeastern Iran and breed on a small scale if rainfall occurs. Locust numbers will increase slightly but remain below threatening levels. No locusts were seen during routine surveys in Rajasthan, **India**.

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 are available on the Internet.

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Twitter: twitter.com/faolocust



No. 402

DESERT LOCUST BULLETIN



Weather & Ecological Conditions in March 2012

Light showers fell at times during March in parts of Mauritania, Algeria, Niger, Ethiopia and Oman. Mainly dry conditions prevailed in the winter breeding areas along both sides of the Red Sea while vegetation was becoming green in parts of the spring breeding areas in Northwest Africa and Southwest Asia.

In the **Western Region**, rain fell at times in parts of Algeria, Mauritania and Niger during March. In Algeria, a few showers may have fallen in the western Sahara between Tindouf and Adrar, in the central Sahara between Adrar and In Salah, and in the Grand Erg Oriental between Ouargla and Ghadames, Libya. In Mauritania, light rain may have fallen in parts of Inchiri and heavier showers occurred in central areas during the third decade. In Niger, light to moderate rain continued to fall on the western edge of the Ténéré Desert near Adrar Madet. During March, vegetation was becoming green in parts of the Sahara in Algeria (southeast of Beni Abbes, near Adrar, In Salah and Illizi) and southwest Libya (northwest of Ghat), in a few places of northwest Mauritania (the northern edge of Amatlich southwest of Oujef), in parts of eastern and northern Mali (several wadis north of Menaka and near Aguelhoc), and in northern Niger (eastern Tamesna between Tegguidda and Agadez, and near Adrar Madet). Conditions remained favourable for breeding in southwest Libya near Ghat and in adjacent areas of southeast Algeria near Illizi and Djanet; however, vegetation was starting to dry out by the end of the month in some places.

In the **Central Region**, a few showers occurred in parts of Oman and Ethiopia during March. In central Oman, light to moderate rain fell between Hayma and Marmul. In eastern Ethiopia, light rain fell in the third decade between Dire Dawa, Ayasha and Jijiga, extending to Boroma in northern Somalia. Vegetation dried out in the winter breeding areas along both sides of the Red Sea except for parts of Yemen where vegetation was green on the edges of cropping areas on the Tihama between Bayt Al Faqih and Suq Abs.

In the **Eastern Region**, light rain fell in parts of the spring breeding areas in southeast Iran (Jaz Murian Basin) and in the northern interior of western Pakistan (Dalbandin to Nushki). Vegetation was becoming green in Pakistan near cropping areas northeast of Dalbandin, near Nushki, Kharan, and Panjgur, and in the Turbat and Shooli valleys. In southeast Iran, vegetation was becoming green on the eastern and western edges of the Vashnum Plains, along parts of the coast between Chabahar and Jask and in the Jaz Murian Basin. Dry conditions prevailed in Rajasthan, India.



Area Treated

Algeria	1,450 ha (1-28 March)
Libya	3,665 ha (March)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

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

• FORECAST

Isolated adults may be present in parts of northern Trarza, Inchiri and southwest Adrar where breeding is unlikely unless good rains occur during the forecast period.

Mali

• SITUATION

No surveys were carried out and no locusts were reported in March.

• FORECAST

Low numbers of adults may be present and could persist in the few areas that remain green near Aguelhoc and Menaka. No significant developments are likely.

Niger

• SITUATION

No surveys were carried out and no locusts were reported in March.

• FORECAST

Low numbers of adults may be present in the eastern Tamesna and the western edge of the Ténéré. Small-scale breeding may occur in areas of recent rainfall and cause locust numbers to increase slightly.

Chad

• SITUATION

No surveys were carried out and no locusts were reported in March.

• FORECAST

No significant developments are likely.

Senegal

• SITUATION

No surveys were carried out and no locusts were reported in March.

• 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 March, groups of mature solitary and *transiens* adults were copulating and laying eggs at nearly two dozen places in the southeast about 100 km northwest of Djanet (2434N/0930E) in the Bordj El Haoues area. Densities varied from 20 to 60 adults/m². Solitary and *transiens* adults were also laying eggs near Illizi (2630N/0825E). Ground teams treated 1,450 ha on 1-28 March. No locusts were seen near Adrar (2753N/0017W) and Tindouf (2741N/0811W).

• FORECAST

Locust numbers will almost certainly increase dramatically as a second generation of hatching occurs during April near Djanet and Illizi. Hatchlings are expected to form numerous small groups and bands. From about mid-May onwards, fledgling will occur and small groups of immature adults and swarms are likely to form. Additional infestations may be present in other parts of the southeast that are inaccessible. Low numbers of adults may arrive from northern Niger. Scattered adults may also appear near Adrar, Tindouf and Beni Abbes and breed on a limited scale if rainfall occurs.

Morocco

• SITUATION

No surveys were carried out and no locusts were reported in March.

• FORECAST

Low numbers of adults may appear south of the Atlas Mountains in the Draa and adjacent valleys during April and breed on a small scale if rainfall occurs. No significant developments are likely.

Libya

• SITUATION

The outbreak in the southwest continued during March. Throughout the month, medium to high density groups of mature gregarizing adults were seen copulating and laying eggs at more than two dozen places along the border of Algeria northwest of Ghat (2459N/1011E). The infestations were present within an area of about 80 km by 65 km. Ground teams treated 3,665 ha in March. It is likely that similar infestations are present in other nearby areas that cannot be accessed.

• FORECAST

Locust numbers will almost certainly increase dramatically as a second generation of hatching occurs during April in the Ghat area. Hatchlings are expected to form numerous small groups and bands. From about mid-May onwards, fledgling will occur and small groups of immature adults and swarms are likely to form. Additional infestations may be present in other parts of the west between Sabha and Ghadames.

Tunisia

• SITUATION

No surveys were carried out and no locusts were reported in March.

• FORECAST

No significant developments are likely.

CENTRAL REGION

Sudan

• SITUATION

During the first half of March, scattered mature solitary adults persisted at a few places on the Red Sea coast in the Tokar Delta and near Adobana (1810N/3816E).

• FORECAST

In the absence of further rains, locust numbers will decline on the Red Sea coastal plains. No significant developments are likely.

Eritrea

• SITUATION

A late report indicated that no surveys were carried out and no locusts were reported in February.

On 1-3 March, no locusts were seen during a survey on the central Red Sea coastal plains between Sheib (1551N/3903E) and Naro (1626N/3840E).



No. 402



No. 402

DESERT LOCUST BULLETIN

- **FORECAST**

No significant developments are likely.

Ethiopia

- **SITUATION**

During March, no locusts were seen during surveys carried out in the Somali Region between Dire Dawa (0935N/4150E) and Ayasha (1045N/4234E), and near Jijiga (0922N/4250E).

- **FORECAST**

No significant developments are likely.

Djibouti

- **SITUATION**

No reports were received during March.

- **FORECAST**

No significant developments are likely.

Somalia

- **SITUATION**

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

- **FORECAST**

No significant developments are likely.

Egypt

- **SITUATION**

During March, no locusts were seen on the Red Sea coast between Shalatyn (2308N/3535E) and Halaib (2213N/3638E), in the Red Sea Hills west of Berenice (2359N/3524E), along the Lake Nasser shoreline near Abu Simbel (2219N/3138E) and Tushka (2247N/3126E), and in the northwest on the Mediterranean coast near Salum (3131N/2509E).

- **FORECAST**

No significant developments are likely.

Saudi Arabia

- **SITUATION**

During March, no locusts were seen during surveys on the central Red Sea coast near Thuwal (2215N/3906E), in the Asir Mountains near Khamis Mushait (1819N/4245E) and in the interior.

- **FORECAST**

No significant developments are likely.

Yemen

- **SITUATION**

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

- **FORECAST**

Low numbers of adults are likely to be present in a few places along the central Tihama. Unless further rains fall, breeding is not expected to occur.

Oman

- **SITUATION**

During March, isolated immature solitary adults were seen in Sharqiya Region near the coast southeast of Sur (2234N/5930E) and in Dhahera Region west of Adam (2223N/5731E). Isolated fledglings were also reported near Sur indicating that local breeding occurred in February. No locusts were seen on the Batinah coast or on the Musandam Peninsula.

- **FORECAST**

Adults will mature in coastal areas of Sharqiya and interior areas of Dhahera and breed on a small scale in any areas that receive rainfall during the forecast period.

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 March, no locusts were seen on the southeastern coast between Jask (2540N/5746E) and Chabahar (2517N/6036E).

- **FORECAST**

Low numbers of locusts may appear on the southeastern coastal plains between Jask and Chabahar and in the Jaz Murian Basin in the interior, and breed on a small scale in areas that receive rainfall.

Pakistan

- **SITUATION**

During the first half of March, isolated mature solitary adults persisted at two places on the coast of Baluchistan near Uthal (2548N/6637E). No locusts were seen in the interior near Panjgur (2658N/6406E), Kharan (2832N/6526E) and Nushki (2933N/6601E).

- **Forecast**

Low numbers of locusts will persist near Uthal and are expected to appear in other coastal and interior areas, and breed on a small scale if rainfall occurs.

India

• SITUATION

No locusts were seen during surveys carried out in Rajasthan and Gujarat in March.

• FORECAST

No significant developments are likely.

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.

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- **Greenness maps.** Dynamic maps of green vegetation evolution every decade (<http://www.devcoast.eu/user/images/dl/Form.do>)
- **FAODLIS Google site.** A platform for sharing problems, solutions, tips and files for eLocust2, eLocust2Mapper, RAMSES and remote sensing (<https://sites.google.com/site/faodlis>)
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No. 402

DESERT LOCUST BULLETIN



DESERT LOCUST BULLETIN

**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

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EASTERN

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No. 402

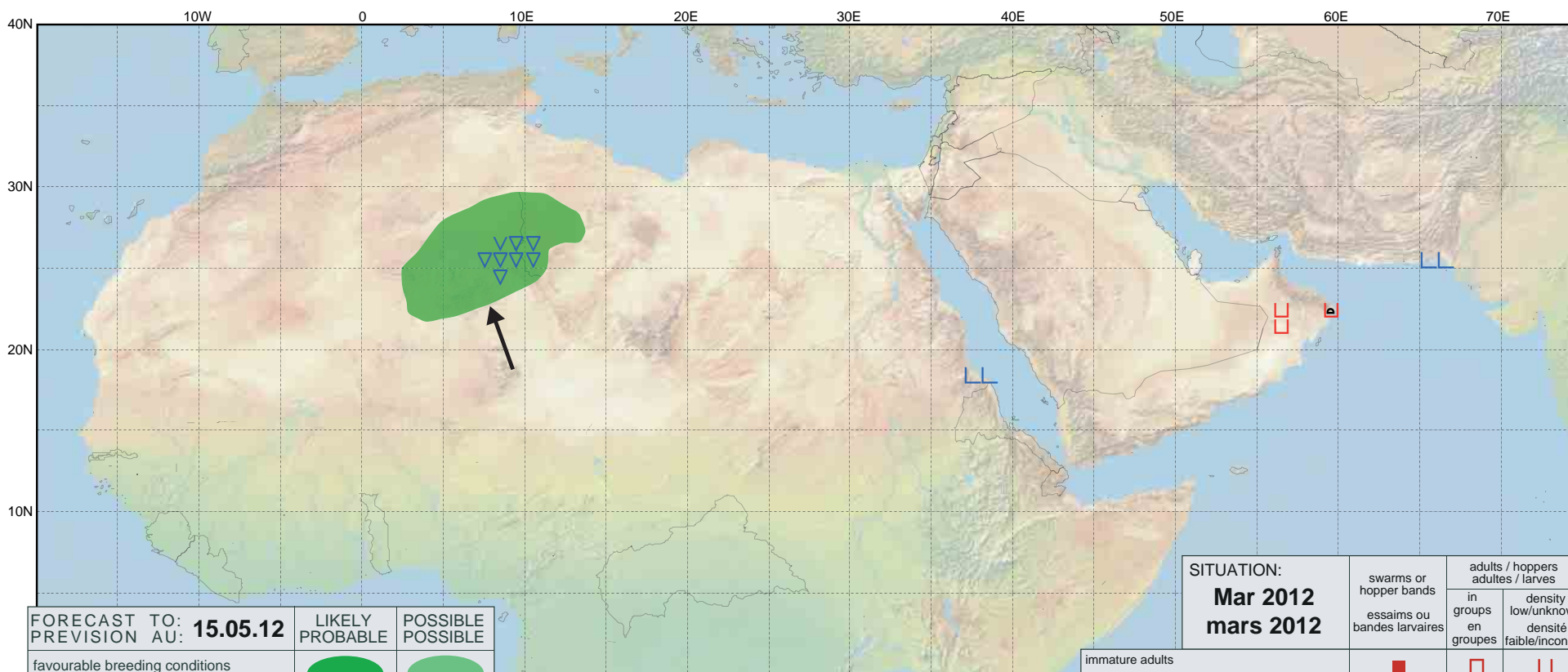
DESERT LOCUST BULLETIN

page **7** of 8



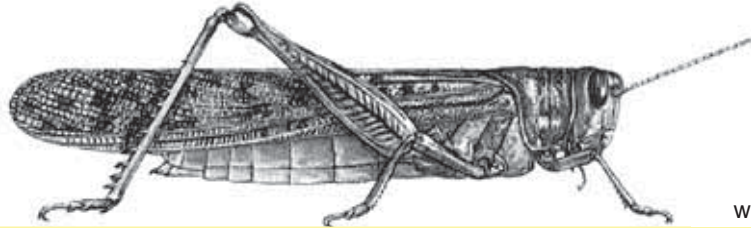
Desert Locust Summary

Criquet pèlerin - Situation résumée



FORECAST TO: PREVISION AU:	15.05.12	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: Mar 2012 mars 2012	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)			



warning level: **CAUTION**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 403



**General Situation during April 2012
Forecast until mid-June 2012**

(3 May 2012)

The Desert Locust outbreak that developed in early February along the Algerian-Libyan border continued during April. Locust numbers increased in both countries as a result of hatching and the formation of small but dense hopper bands. Although control operations were in progress, an increasing number of immature swarms are expected to form in May, most of which will probably remain in the outbreak area, mature and lay eggs, giving rise to another generation of hopper bands from about mid-June onwards. The situation is potentially very dangerous because swarms could eventually invade the northern Sahel of West Africa at the beginning of the rainy season when farmers are planting. Therefore, all efforts are required to monitor the situation now and undertake the necessary control operations to reduce population levels. Elsewhere, the situation remains calm.

Western Region. Egg laying and hatching occurred in southwest **Libya** and southeast **Algeria** during April, causing small but dense hopper bands to form. Many areas are inaccessible in both countries due to insecurity and remoteness. Ground teams in Algeria have been able to survey about 15 percent of the potentially infested areas. Immature adult groups and swarms will form in May. Adults could be ready to lay another generation of eggs in late May that would hatch by mid-June. Most of the adults are expected to remain in the outbreak area in May but could start

to move southwards in June. Control teams treated 3,360 ha in Algeria and 3,535 ha in Libya. Elsewhere, a few mature solitary adults were present in northeast **Morocco**, and good rains fell in northern **Mauritania** and **Western Sahara** where small-scale breeding could occur during the forecast period.

Central Region. No locusts were reported in the region during April except for a few solitary hoppers and adults in central **Oman** as a result of local breeding. The adults may move into parts of northern Oman and breed on a small scale during May in areas of recent rainfall. No significant developments are likely.

Eastern Region. Despite light rainfall at times in April, ecological conditions remained generally unfavourable in the spring breeding areas in western **Pakistan** and southeastern **Iran**. Scattered mature adults were present in the northern interior of Baluchistan in Pakistan while no locusts were reported in adjacent areas of southeast Iran. Although there is a low possibility of small-scale breeding during the forecast period, locust numbers will remain low and below threatening levels. No locusts were seen during routine surveys in western **India**.

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 are available on the Internet.

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Facebook: www.facebook.com/pages/FAOLocust/314165595289302

Twitter: twitter.com/faolocust



No. 403

DESERT LOCUST BULLETIN



Weather & Ecological Conditions in April 2012

Good rains fell in northern Mauritania, Western Sahara, northern Oman and, to a lesser extent, in the Horn of Africa and in the spring breeding areas in southeast Iran and western Pakistan. Consequently, ecological conditions will improve in most of these areas.

In the **Western Region**, light to moderate rain fell over parts of Western Sahara on 9-11 April, extending into adjacent areas of northern Mauritania (Bir Moghreïn (75 mm), Zouerate (6 mm), and El Hank) and, to a lesser extent in the northwest near Nouadhibou (6 mm). Showers fell again in the Western Sahara at the end of the month. Light rain may have fallen in parts of southwest Libya in early April. As a result of the rainfall, vegetation was becoming green over large areas of northern Mauritania by the end of the month. Ecological conditions are also likely to improve in adjacent areas of Western Sahara while conditions remained favourable for locust breeding and survival along both sides of the Algerian-Libyan border.

In the **Central Region**, local showers fell on the Red Sea coast in Eritrea at the end of April. Light to moderate rains fell in the highlands of Yemen and run-off may have occurred onto the Red Sea coastal plains as well as into the western portion of the interior. Light to moderate rains also fell in parts of the southwest and central interior in Saudi Arabia where vegetation was green in the spring breeding areas. In northern Oman, good rains fell during the second decade in the interior and on the Batinah coast. Vegetation was drying out in central areas that received good rains in mid-March. In northern Somalia, scattered showers fell in early April on the northwest coastal plains and at times during the remainder of the month on the plateau, extending into parts of eastern Ethiopia. Nevertheless, vegetation remained dry due to the prolonged drought.

In the **Eastern Region**, light rain fell in southeast Iran and parts of western Pakistan during the second decade of April. Nevertheless, vegetation was drying out in most places of the spring breeding areas except



Area Treated

Algeria 3,360 ha (1-24 April)
Libya 3,535 ha (2-25 April)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

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

• FORECAST

Scattered adults are likely to be present in parts of Inchiri and Tiris Zemmour. Small-scale breeding is expected to occur in areas that received recent rainfall, causing locust numbers to increase slightly but remain below threatening levels.

Mali

• SITUATION

No surveys were carried out and no locusts were reported in April.

• FORECAST

Low numbers of adults may be present in parts of the Adrar des Iforas. No significant developments are likely.

Niger

• SITUATION

No surveys were carried out and no locusts were reported in April.

• FORECAST

Isolated adults may be present in parts of the Air Mountains. No significant developments are likely.

Chad

• SITUATION

No surveys were carried out and no locusts were reported in April.

• FORECAST

No significant developments are likely.

Senegal

• SITUATION

No surveys were carried out and no locusts were reported in April.

- **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**

Hatching commenced in early April near the Libyan border in Wadi Tarat (2618N/0919E) and occurred during the rest of the month north of the Tassili-Ajjer Mountains near Illizi (2630N/0825E) and south of the mountains near Bordj El Haoues (2452N/0826E) west of Djanet. *Transiens* and gregarious hoppers formed small groups and bands at densities of more than 5,000 hoppers/m². By the last week of April, mainly second to fourth instar hoppers were present. Groups of *transiens* and gregarious adults continued to lay eggs north of the Tassili until the 19th. Ground teams were able to survey about 15% of an estimated area of about 102,000 ha that may be green and potentially infested according to high resolution satellite imagery analysis. Control teams treated 3,360 ha on 1-24 April. No locusts were seen during surveys between Adrar (2753N/0017W) and Tamanrasset (2250N/0528E).

- **FORECAST**

Hatching is expected to continue to about mid-May north of Tassili and hopper bands will continue to form throughout the month. Fledging should commence in early May and last for about one month during which an increasing number of immature groups and swarms are expected to form. By the end of May, adults could be ready to lay another generation of eggs that would hatch about the second week of June if conditions remain favourable. Adult groups and swarms are likely to remain in the current outbreak area during May but could start to move southwards in June.

Morocco

- **SITUATION**

During April, a few mature solitary adults were seen at two places in the northeast near the Algerian border southwest of Bouarfa (3232N/0159W).

- **FORECAST**

Low numbers of adults may appear south of the Atlas Mountains in the Draa and adjacent valleys and breed on a small scale if rainfall occurs. No significant developments are likely. Scattered adults may be present in parts of the Western Sahara and breed on a small scale in areas of recent rainfall.

Libya

- **SITUATION**

During April, small patches of first and second instar *transiens* and gregarious hoppers were first reported on the 5th in the valley north of Ghat (2459N/1011E) from egg laying that occurred in late February and throughout March. Groups of mature gregarious adults were seen copulating northwest of Ghat up until 9 April and, thereafter, medium to high density hopper groups and bands formed. By the last week of the month, hoppers of all instars were present. No locusts were seen further north in the Al Hamada Al Hamra plateau on 21-23 April except at one place in the south where scattered mature adults were present on the northern edge of the Awbari Sand Sea. These adults probably moved during the first week of the month on warm southwesterly winds. Ground teams treated 3,535 ha on 2-25 April.

- **FORECAST**

Hopper bands will continue to form in the southwest during May. Fledging will commence at the beginning of the month and last until the end of May during which an increasing number of immature groups and swarms are expected to form. By the end of May, adults could be ready to lay another generation of eggs that would hatch about the second week of June if conditions remain favourable. Adult groups and swarms are likely to remain in the current outbreak area during May but could start to move southwards in June. Additional infestations are likely to be present in other parts of the west between Sabha and Ghadames where egg laying, hatching and band formation are expected.

Tunisia

- **SITUATION**

No surveys were carried out and no locusts were reported in April.

- **FORECAST**

No significant developments are likely.

CENTRAL REGION

Sudan

- **SITUATION**

No surveys were carried out and no locusts were reported in April.

- **FORECAST**

No significant developments are likely.



No. 403



No. 403

DESERT LOCUST BULLETIN

Eritrea

- SITUATION

No surveys were carried out and no locusts were reported in April.

- FORECAST

No significant developments are likely.

Ethiopia

- SITUATION

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

- FORECAST

No significant developments are likely.

Djibouti

- SITUATION

No reports were received during April.

- FORECAST

No significant developments are likely.

Somalia

- SITUATION

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

- FORECAST

Isolated adults may appear on the plateau in areas of recent rainfall. No significant developments are likely.

Egypt

- SITUATION

No locusts were seen during surveys carried out in April on the Red Sea coast between Shalatyn (2308N/3535E) and Abu Ramad (2224N/3624E), in the nearby Red Sea Hills and along both sides of Lake Nasser.

- FORECAST

No significant developments are likely.

Saudi Arabia

- SITUATION

During April, no locusts were seen during surveys in the Asir Mountains and in the interior.

- FORECAST

No significant developments are likely.

Yemen

- SITUATION

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

- FORECAST

Low numbers of adults are likely to be present in a few places along the central Tihama. Unless further rains fall, breeding is not expected to occur.

Oman

- SITUATION

During April, isolated third to sixth instar solitary hoppers mixed with isolated fledglings and immature solitary adults were seen at three places in the central Wusta Region between Hayma (1957N/5616E) and the coast at Duqm (1939N/5743E) where local breeding occurred in March. Isolated immature solitary adults were also seen nearby on the coast at Al Jazer (1833N/5634E). No locusts were seen during surveys carried out in the Musandam Peninsula.

- FORECAST

Adults on the central eastern coast are likely to move north into parts of Sharqiya, Dhahira, Dakhliya, and the Batinah coast where good rains fell recently, mature and breed on a small scale. If so, hatching is expected to occur by the end of May, causing locust numbers to increase slightly but remain below threatening levels.

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 the first two decades in April, no locusts were seen during a joint national survey in the southeast along the coast from Chabahar (2517N/6036E) to Bandar Abbas (2711N/5619E) and in the interior of Kerman and Sistan-Baluchistan.

- FORECAST

Isolated adults could appear and breed on a small scale in areas of recent rainfall along parts of the coast and interior of the southeast. No significant developments are likely.

Pakistan

- SITUATION

No reports were received during the second half of March.

During the first two decades of April, scattered mature solitary adults were seen during a joint

national survey at several places in the Kharan (2832N/6526E) Valley and at one place west of Nushki (2933N/6601E). No locusts were reported during the remainder of the month.

- **Forecast**

Low numbers of locusts will persist in the Kharan Valley and could breed on a small scale in areas of recent rainfall. Isolated adults could appear in other parts of Baluchistan and breed on a limited scale in those areas that received rain during April.

India

- **SITUATION**

No locusts were seen during surveys carried out in Rajasthan and Gujarat in April.

- **FORECAST**

No significant developments are likely.

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.

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No. 403



No. 403

DESERT LOCUST BULLETIN

- **Desert Locust Information Officer Workshops.** Activities Section – DLIS
- **DLIS Questionnaire.** Activities Section – DLIS
- **Iran/Pakistan 2012 Joint Survey report.** Publications Section – Reports

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EASTERN

- locust-affected countries in South-West Asia: Afghanistan, India, Iran and Pakistan.



No. 403

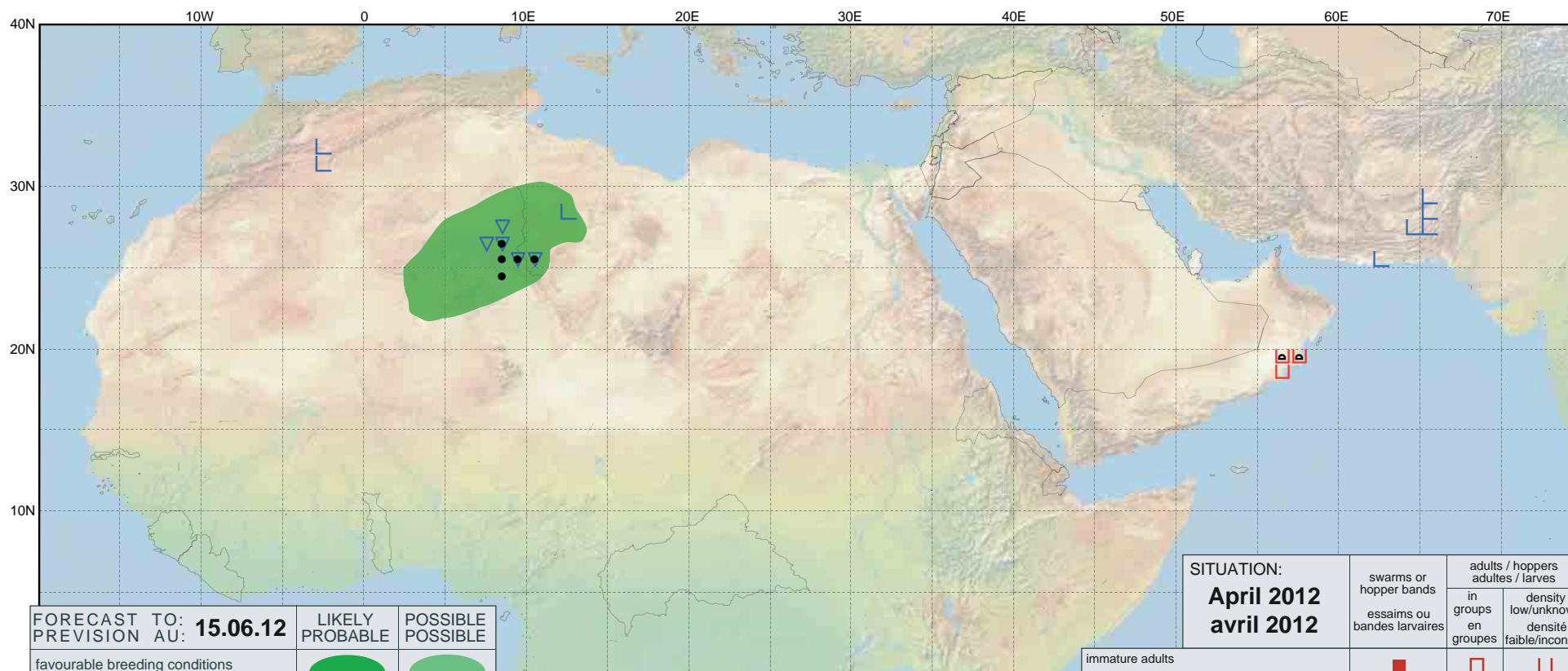
DESERT LOCUST BULLETIN

page 7 of 8



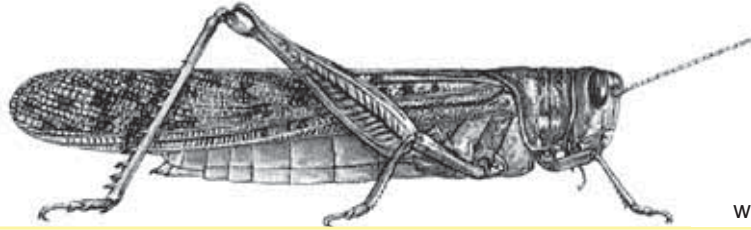
Desert Locust Summary

Criquet pèlerin - Situation résumée



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15.06.12		
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SITUATION: April 2012 avril 2012	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)			



warning level: **CAUTION**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 404



General Situation during May 2012
Forecast until mid-July 2012

(4 June 2012)

The Desert Locust outbreak that developed in early February along the Algerian-Libyan border continued during May. Immature swarms formed in both countries where control efforts increased in order to limit damage to crops and pastures and to reduce the number of locusts moving south to the Sahel. So far, only a few adult groups have moved to southern Algeria and one group reached northern Niger. Nevertheless, countries must be on high alert and prepare themselves for more adult groups and a few small swarms to arrive in northern Niger, Mali and Chad during June. There is a high risk that locusts will settle in cropping areas. Elsewhere, local breeding caused hoppers to form small groups in central Oman. Small-scale breeding will commence in the summer breeding areas in Sudan and along both sides of the Indo-Pakistan border but locust numbers will remain low.

Western Region. Hopper bands began fledging and groups of immature adults formed in southwest Libya and southeast Algeria during the first week of May. By mid-month, several high-density immature swarms of up to 5 km² in size were reported. Since the beginning of the outbreak, more than 41,000 ha have been treated in Algeria (31,000 ha in May) and 21,000 ha in Libya (11,000 ha in May). As vegetation began to dry out, a limited number of adult groups moved south during the last week of May to southern Algeria and one group arrived in northern Niger at the end of

the month. More immature adult groups and swarms are expected to form in June and move south to Niger and, to a lesser extent, to Mali and Chad. The adults will settle in cropping areas and in places that recently received rain in the northern Sahel. There is a high risk that some adults will overfly these areas and continue south into the main cropping zones of the Sahel. Adults will mature and breeding is expected to commence by July. In Mauritania, the risk of adult groups or swarms arriving from the Algerian-Libyan outbreak area is lower; instead, low numbers of adults will appear in the south and breed on a small scale with the onset of the seasonal rains.

Central Region. No locusts were reported in the region during May except for hopper groups and scattered adults in central Oman as a result of local breeding during April and May. Small groups of immature adults may form and move to northeastern Oman and breed on a small scale during June in areas of recent rainfall. In Sudan, small-scale breeding is expected to commence in the summer breeding areas of the interior during the forecast period but locust numbers will remain below threatening levels.

Eastern Region. No reports were received from the Region in May except for India where no locusts were seen during regular surveys. Low numbers of locusts may be present and breeding on a small scale in parts of the spring breeding areas in western Pakistan where good rains fell in May. Locust numbers will decrease as adults appear in the summer breeding areas in Cholistan and Tharparkar, Pakistan and Rajasthan, India. Small-scale breeding will commence with the onset of the monsoon rains in July.

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 are available on the Internet.

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No. 404

DESERT LOCUST BULLETIN



Weather & Ecological Conditions in May 2012

Early pre-season rains fell in the northern Sahel from Mali to Sudan, on the plateau in northern Somalia and in parts of the spring breeding areas in western Pakistan and southeastern Iran. Consequently, ecological conditions will improve in most of these areas.

In the **Western Region**, the Inter-Tropical Convergence Zone (ITCZ) continued its northward movement over West Africa during May. By the end of the second decade, the ITCZ had reached central Mali (Nara-Gao-Menaka), central and southern Niger (Tchin-Zinder-Diffa) and central Chad (Mao-S. Abeche). Pre-season rains fell north of the ITCZ during the second half of May in the northern Sahel of Mali, Niger and Chad. In northern Mali, light to moderate rain occurred in Timetrine, the Adrar des Iforas and Tamesna. In Niger, light to moderate rain fell in Tamesna, the Air Mountains, and in the Sahelian zone south of Tahoua, between Maradi and Termit, and near Zinder. Light rain also fell further north in southern Algeria between Tamanrasset and In Guezzam. Heavier showers fell at the end of the month in the extreme northeast of Niger on the Djado Plateau, extending into southern Libya and northern Chad, including Tibesti. Light rain fell in eastern Chad between Arada and Iriba. Although ecological conditions were dry and unfavourable for breeding in May, they are likely to improve during June. In North-West Africa, vegetation started to dry out along both sides of the border in southeast Algeria and southwest Libya but remained green in some areas. Light showers fell in southeast Libya near Jebel Uweinat.

In the **Central Region**, early pre-season rains fell in parts of the summer breeding areas in the interior of Sudan during the last decade of May. Light rain fell in the Baiyuda Desert, in North Kordofan (Hamrat Esh Sheikh to Umm Saiyala), and the southern portion of North Darfur while heavier rains fell in West Darfur. Light rain fell in southwest Egypt from Jebel Uweinat to Dakhla Oasis. In the Horn of Africa, light rains fell at times during the first two decades of May on the plateau in northern Somalia and in adjacent areas in eastern Ethiopia. In the Arabian Peninsula, light rain

fell at the end of the month in some places along the Red Sea coast in Yemen. In northeast Oman, light showers fell in the Sharqiya region where good rains fell in mid-April. Consequently, ecological conditions may be favourable for breeding. Elsewhere, dry conditions prevailed in the Region.

In the **Eastern Region**, good rains fell in the central interior of Baluchistan in western Pakistan and southeastern Iran during the first decade of May, and continued in Pakistan during the second decade. Consequently, ecological conditions are expected to be favourable for late breeding in the Turbat, Panjgur and Lasbela areas in Pakistan. The seasonal monsoon had nearly reached the southern tip of India (Kerala) at the end of May but is not expected to reach Rajasthan until the first week of July.



Area Treated

Algeria	7,987 ha (April, revised)
	31,201 ha (May)
Libya	4,460 ha (April, revised)
	10,910 ha (May)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

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

• FORECAST

There is a low risk that a few small adult groups or swarms could arrive from the east and northeast and continue towards cropping areas in the south where breeding could eventually take place. Otherwise, low numbers of adults will appear in the south and breed on a small scale with the onset of the seasonal rains.

Mali

• SITUATION

No surveys were carried out and no locusts were reported in May.

• FORECAST

There is a moderate to high risk that small groups of adult and a few swarms will arrive from the northeast in areas of recent rainfall in Tamesna, Adrar des Iforas and Timetrine. Some populations may continue south to cropping areas. Upon arrival, the adults will mature and breeding is expected to commence during July.

Niger

• SITUATION

On 30 May, a group of adults was reported in the north near Arlit (1843N/0721E), arriving from the north. More details are awaited.

• FORECAST

There is a high risk that small groups of adult and a few swarms will arrive from the north in areas of recent rainfall in the Tamesna, Air Mountains and the Djado Plateau. Some populations may continue south to cropping areas in the Sahel zone. Upon arrival, the adults will mature and breeding is expected to commence during July.

Chad

• SITUATION

No surveys were carried out and no locusts were reported in May.

• FORECAST

There is a low to moderate risk that a few small groups of adults or swarms could arrive in Tibesti from the northwest and continue towards cropping areas where adults will mature and breed.

Senegal

• SITUATION

No surveys were carried out and no locusts were reported in May.

• 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 May, second generation egg laying, hatching and band formation continued in the northern part of the outbreak area near Illizi (2630N/0825E). Adults were last seen laying on the 3rd north of Illizi. Further south, most of the late instar hopper bands had fledged by mid-month. Groups of immature adults were first reported on the 6th and immature swarms up to 2 km² in size were seen on 12-18 May. Thereafter only immature groups were reported, including several groups moving south from Bordj El Haoues (2452N/0826E) towards Tamanrasset (2250N/0528E) on 23-26 May. Ground teams treated 31,201 ha in May. No locusts were seen near Adrar (2753N/0017W) and In Salah (2712N/0229E).

• FORECAST

Immature groups and swarms will continue to form in June and probably remain in the southeast

until vegetation dries out. Thereafter, they will move south towards the northern Sahel in West Africa. If a few groups or swarms remain in the area, they could mature during June and lay eggs from the end of the month onwards in those areas that remain favourable, with hatching commencing in July.

Morocco

• SITUATION

During May, isolated immature and mature solitary adults persisted in the northeast near Bouarfa (3232N/0159W).

• FORECAST

No significant developments are likely.

Libya

• SITUATION

During May, second generation egg-laying, hatching and band formation continued in the northern part of the outbreak area near Ghadames (3010N/0930E) and on the southern Al Hamada Al Hamra plateau, and late instar hopper bands were present near Ghat (2459N/1011E). By the second week, fledging commenced and immature adults formed groups at densities up to 800 adults/m². On the 19th, the first immature swarm was reported near Ghat. More medium and high density swarms up to 5 km² in size formed during the remainder of the month. Ground teams treated 10,910 ha in May.

• FORECAST

Immature groups and swarms will continue to form in June and probably remain in the west and southwest until vegetation dries out. Thereafter, they will move south towards the northern Sahel in West Africa. If a few groups or swarms remain in the area, they could mature during June and lay eggs from the end of the month onwards in those areas that remain favourable, with hatching commencing in July.

Tunisia

• SITUATION

No surveys were carried out and no locusts were reported in May.

• FORECAST

No significant developments are likely.



No. 404



No. 404

DESERT LOCUST BULLETIN

CENTRAL REGION

Sudan

• **SITUATION**

No surveys were carried out and no locusts were reported in May.

• **FORECAST**

Low numbers of adults are likely to appear in parts of the summer breeding areas in the interior and breed on a small scale in areas of recent rainfall and in those areas that receive rain during the forecast period. Consequently, locust numbers will increase slightly but remain below threatening levels.

Eritrea

• **SITUATION**

During May, isolated mature solitary adults were seen on the central Red Sea coast near Shelshela (1553N/3906E).

• **FORECAST**

No significant developments are likely.

Ethiopia

• **SITUATION**

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

• **FORECAST**

No significant developments are likely.

Djibouti

• **SITUATION**

No reports were received during May.

• **FORECAST**

No significant developments are likely.

Somalia

• **SITUATION**

No reports were received during May.

• **FORECAST**

Isolated adults may appear on the plateau in areas of recent rainfall and breed on a small-scale. No significant developments are likely.

Egypt

• **SITUATION**

No reports were received during May.

• **FORECAST**

No significant developments are likely.

Saudi Arabia

• **SITUATION**

During May, no locusts were seen during surveys in the Asir Mountains east of Thuwal (2215N/3906E) and in the interior.

• **FORECAST**

No significant developments are likely.

Yemen

• **SITUATION**

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

• **FORECAST**

Low numbers of adults are likely to be present in a few places along the Tihama where they could breed on a small-scale in areas of recent rainfall.

Oman

• **SITUATION**

During May, small-scale breeding occurred in a few places in Sharqiya near Ibra where first and second instar solitary hoppers were present. Mature solitary and transiens adults were seen on the eastern and western edges of the Wahiba sands and on the coast south of Ras Al Hadd (2232N/5947E). In the central region (Wusta) between Hayma (1957N/5616E) and the coast at Duqm (1939N/5743E), groups of fifth instar *transiens* and gregarious hoppers were present in the Sarab area from earlier undetected breeding. Isolated hopper and adults were seen further south near Marmul (1808N/5516E).

• **FORECAST**

An increasing number of small groups of immature adults are likely to form in the Wusta Region that will probably move towards the northeast.

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 reports were received during May.

• **FORECAST**

No significant developments are likely.

Pakistan

• **SITUATION**

No reports were received during May.

• **Forecast**

Low numbers of locusts may be present and breeding on a small-scale in areas of recent rainfall

in the central interior near Turbat and Panjgur. Locust numbers will decrease in the spring breeding areas in Baluchistan as low numbers of solitarious adults appear in the summer breeding areas in Cholistan and Tharparkar.

India

• SITUATION

No locusts were seen during surveys carried out in Rajasthan and Gujarat in May.

• FORECAST

Low numbers of locusts will appear in Rajasthan. Small-scale breeding will occur once the monsoon rains commence in July.

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/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.

Locust tools and resources. FAO has developed a number of tools that National locust information

officers and other interested individuals can use for Desert Locust early warning and management:

- **MODIS.** Vegetation imagery every 16 days (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/.Regional/.MODIS/index.html)
- **MODIS.** Daily rainfall imagery in real time (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/index.html)
- **RFE.** Rainfall estimates every day, decade and month (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/index.html)
- **Greenness maps.** Dynamic maps of green vegetation evolution every decade (<http://www.devocast.eu/user/images/dl/Form.do>)
- **FAODLIS Google site.** A platform for sharing problems, solutions, tips and files for eLocust2, eLocust2Mapper, RAMSES and remote sensing (<https://sites.google.com/site/faodlis>)
- **FAOLOLUST Twitter.** The very latest updates are posted on Twitter (<http://twitter.com/faolocust>)
- **FAOLocust Facebook.** A social means of information exchange using Facebook (<http://www.facebook.com/pages/FAOLocust/314165595289302>)
- **Slideshare.** Locust presentations and photos available for viewing and download (<http://www.slideshare.net/faolocust>)
- **eLERT.** A dynamic and interactive online database of resources for locust emergencies (<http://sites.google.com/site/elertsite>)

SWAC website. A new website for the FAO Commission for Controlling the Desert Locust in South-West Asia (SWAC) is now available at <http://www.fao.org/ag/locusts/SWAC>. Comments are welcome.

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

- **Desert Locust situation updates.** Archives Section – Briefs
- **Libya outbreak.** Information Section
- **Desert Locust Information Officer Workshop reports.** Publications Section – Reports
- **Desert Locust Information Officer Workshops.** Activities Section – DLIS
- **DLIS Questionnaire.** Activities Section – DLIS
- **Iran/Pakistan 2012 Joint Survey report.** Publications Section – Reports



No. 404

DESERT LOCUST BULLETIN

page 5 of 8



No. 404

DESERT LOCUST BULLETIN

2012 events. The following activities are scheduled or planned:

- **DLCC.** 40th Session, Rome (18-22 June)
- **CLCPRO/EMPRES-WR.** Western Region Locust Information Officer workshop, Dakar (15-17 July, tbc)
- **SWAC.** 28th Session, New Delhi, India (December, tbc)



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.



No. 404

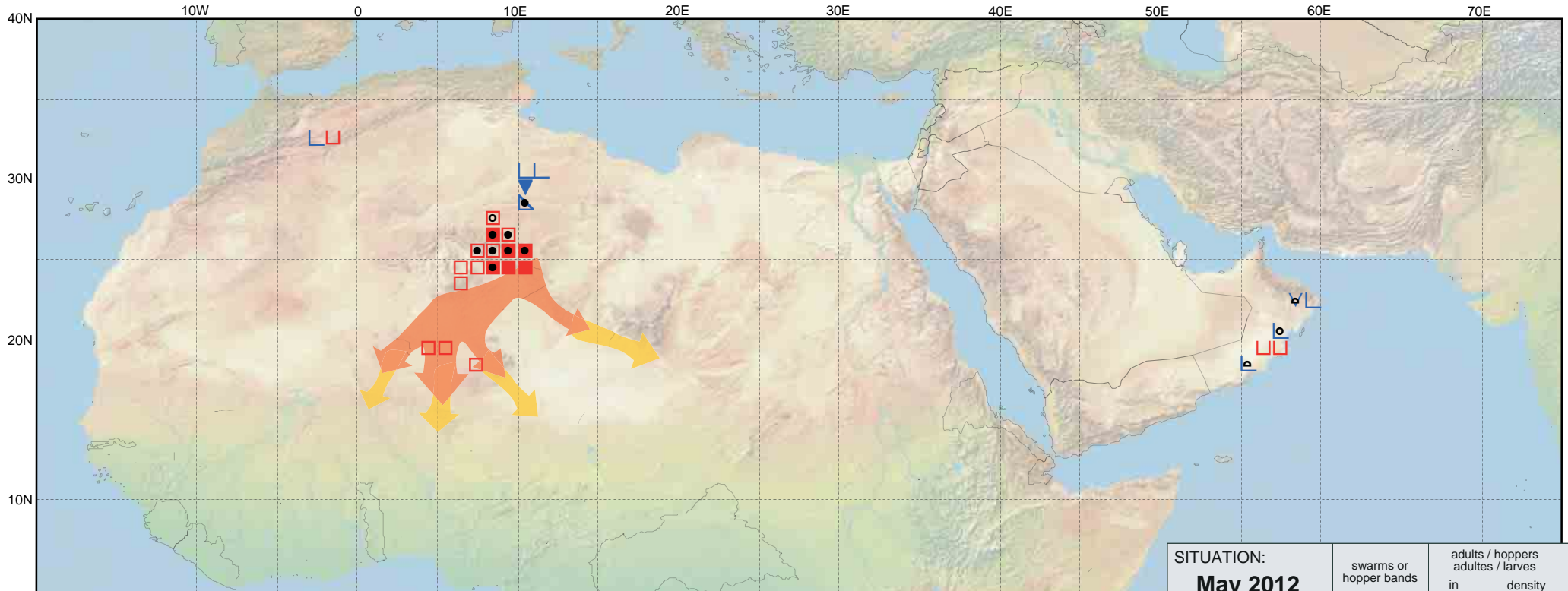
DESERT LOCUST BULLETIN

page **7** of 8



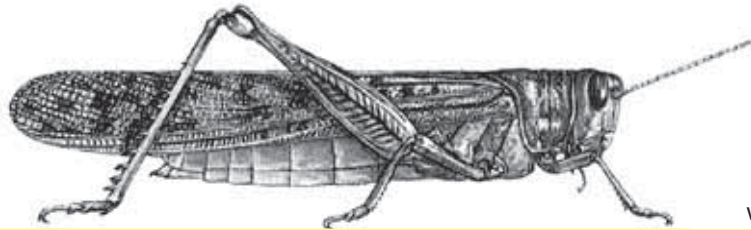
Desert Locust Summary

Criquet pèlerin - Situation résumée



FORECAST TO: PREVISION AU:	15.07.12	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: May 2012 mai 2012	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)			



warning level: **THREAT**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 405



**General Situation during June 2012
Forecast until mid-August 2012**

(3 July 2012)

The Desert Locust situation remained serious during June as adult groups and small swarms migrated from the outbreak area along both sides of the Algerian-Libyan border to the northern Sahel in Mali and Niger where rains have fallen about six weeks earlier than normal. Survey and control teams were mobilized in Niger but were limited by insecurity and a shortage of funds. Similarly, operations could not be carried out in northern Mali where locals reported small swarms. Breeding will occur in northern Mali and Niger, giving rise to hopper groups and bands in July and adult groups and swarms in August. Unless controlled, the infestations will continue to increase and threaten crops and pastures. Depending on rainfall and control operations, a second generation could occur in September, leading to a substantial increase in locust numbers. Consequently, the situation is potentially dangerous. Elsewhere, the situation remained calm during June and no significant developments are expected during the forecast period.

Western Region. As vegetation dried out along both sides of the Algerian-Libyan border, adults formed small groups and swarms in inaccessible areas and moved south to northern Niger and northern Mali during the first half of June. Some adults were mature and ready to lay eggs. Most of the groups and swarms remained in the north but a

few groups reached pasture areas in central Niger and started to lay eggs. Although there were no reports of locusts in Chad, there is a possibility that a few groups may have reached northern areas of the country. A few adults were reported in southeast Mauritania. Control teams in Niger treated 960 ha. Control operations ended in Algeria, treating 42,140 ha since January of which 987 ha were in June. No locusts were reported after mid-June in Libya where 21,400 ha were treated from February to the end of May. During the forecast period, hatching will occur in Mali and Niger during July, causing hopper groups and bands to form and giving rise to adult groups and swarms in August. Small-scale breeding is expected to take place in Mauritania and Chad. All efforts are required to conduct the necessary survey and control operations.

Central Region. No locusts were seen in the region during June except for small hopper and adult infestations in northeastern Oman, where light damage was reported on crops and date palms. Small-scale breeding will occur during the forecast period in the interior of Sudan and western Eritrea, causing locust numbers to increase slightly. Regular surveys are recommended in both countries.

Eastern Region. Locust numbers declined in the spring breeding areas in western Pakistan as conditions dried out during June. Only a few adults persisted in parts of the interior and coastal areas in Baluchistan. Low numbers of solitarious adult appeared in the summer breeding areas in Cholistan, Pakistan near the Indian border. During the forecast period, small-scale breeding will occur along both sides of the Indo-Pakistan border, causing locust numbers to increase slightly but remain below threatening levels.

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 are available on the Internet.

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No. 405

DESERT LOCUST BULLETIN



Weather & Ecological Conditions in June 2012

The ITCZ remained further north than usual in June, causing early pre-season rains to fall for the second consecutive month in the northern Sahel from Mali to Sudan. Pre-monsoon showers also fell in some places along both sides of the Indo-Pakistan border.

In the **Western Region**, the position of the Inter-Tropical Convergence Zone (ITCZ) remained about 125 km further north than usual over West Africa during June. This is the second consecutive month in which the ITCZ was north of its climatological average position. By the end of the second decade, it was located near Oualata (Mauritania), south of Kidal (Mali), Agadez (Niger), and Arada (Chad). As a result, good rains fell during June in parts of northern Mali (in the Adrar des Iforas near Tessalit and south of Kidal; south of Tin Essako in Tamesna; west of Timetrine), northern Niger (Tazerzait Plateau in Tamesna, Air Mountains, Tanout to Tahoua), and in Chad (Tibesti, Kanem, Batha, Biltine). In southeast Mauritania, good rains fell during the last decade of the month from Aioun El Atrous and Nema to the Mali border. Ecological conditions were favourable for breeding in parts of northern Mali (Adrar des Iforas, Tamesna) and Niger (Tamesna, Air Mountains and the pasture zones in the Sahel), and were improving in southeast Mauritania and Chad. In Northwest Africa, light rain fell at times in parts of the Sahara in eastern and southern Algeria and southwest Libya. Good rains fell between Adrar and Bechar in western Algeria. Vegetation was drying out south of the Atlas Mountains in Morocco and throughout Algeria. Vegetation was becoming green within a large portion of the central Western Sahara between Dakhla, Bir Anzarane and Guelta Zemmour from rains in April and May.

In the **Central Region**, good rains fell in the summer breeding areas in the interior of Sudan and western Eritrea during June. The rains were earlier than in most years due to the unusually northern position of the ITCZ. Consequently, light to moderate rain fell as far north as Geneina, El Fasher, El Obeid, Umm Saiyala, and Kassala in Sudan as well as the western lowlands in Eritrea. The rainfall will cause

ecological conditions to become favourable for breeding in July. On the Red Sea coast, light rain fell near Qunfidah, Saudi Arabia and in a few places on the southern Tihama in Yemen. Light to moderate rain fell in parts of Dakhliya and Sharqiya regions in northern Oman.

In the **Eastern Region**, good rains fell earlier than normal along both sides of the Indo-Pakistan border in June. Light to moderate showers occurred north and west of Jaisalmer, India and near Phalodi. Light rains fell in adjacent areas of Cholistan, Pakistan as well as in parts of Tharparkar Desert. Consequently, ecological conditions are expected to become favourable for breeding in these areas during July.



Area Treated

Algeria	987 ha (June)
Niger	960 ha (1-26 June)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

Scattered adults were reported at the end of June in the southeast in Hodh Ech Chargui.

• FORECAST

There is a low risk that a few small adult groups or swarms could arrive from the east and northeast and continue towards cropping areas in the south where breeding could take place. Otherwise, low numbers of adults will appear in the south and breed on a small scale with the onset of the seasonal rains.

Mali

• SITUATION

Late reports indicated that a maturing swarm was seen on 27 May until 1 June in Wadi Ibrouladj in the Timetrine west of Aguelhoc (1927N/0052E).

During June, a small swarm was seen about 200 km west of Aguelhoc in the Timetrine near Inabag and Tikardjaten on the 12th, a mature swarm was reported on the 14th flying south near Aguelhoc. A large maturing swarm was seen on the 18th south of Aguelhoc in W. Touloust. Most of the locusts were said to be moving along the western side of the Adrar des Iforas. The reports could not be confirmed by locust survey teams.

- **FORECAST**

Moderate scale breeding is expected to occur in areas of recent rainfall in Tamesna, Adrar des Iforas and Timetrine, causing locust numbers to increase and giving rise to hopper groups and bands in July and adult groups and swarms in August. There remains a high risk that some of the adult groups and swarms that arrived in the north may continue to cropping areas between Nara, Mopti and Hombori. All efforts are required to undertake the necessary survey and control operations.

Niger

- **SITUATION**

From 1 to 11 June, there were more than 17 reports of immature adult groups and small swarms arriving from Algeria and Libya in the north between Arlit (1843N/0721E) and Dirkou (1859N/1253E), including the Air Mountains, Adrar Madet and the Ténéré Desert, Bilma oasis (1846N/1304E), and the Djado Plateau. Damage was reported to date palms and local cultivations. From the 5th onwards, there was an increase in the number of swarms arriving and some swarms had become mature. Immature swarms continued to be reported until the 22nd. Adults and a few small groups continued south of Agadez (1700N/0756E) towards pasture and cropping areas between Tanout (1458N/0852E) and Termit (1602N/1112E). Egg-laying was first reported on 21 June in pasture areas near Tanout by a group of solitarious and *transiens* adults. An increasing number of mature adults were seen in the same area during the last week of June. Ground teams treated 960 ha on 1-26 June.

- **FORECAST**

Moderate scale hatching will occur from early July onwards, causing locust numbers to increase and giving rise to hopper groups and bands during July and adult groups and swarms in August in the Air Mountains, Tamesna, parts of the Ténéré Desert, and in pasture and cropping areas between Tahoua and Termit. All efforts are required to undertake the necessary survey and control operations.

Chad

- **SITUATION**

No surveys were carried out and no locusts were reported in June.

- **FORECAST**

Small-scale breeding is likely to occur in areas of recent rainfall in Kanem, Batha, Biltine and, perhaps, Tibesti. There is a risk that a few groups of immature adults may have arrived in northern and central areas in June from northeast Niger. Regular surveys are recommended in all areas.

Senegal

- **SITUATION**

No surveys were carried out and no locusts were reported in June.

- **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 June, the locust situation improved due to control operations, drying conditions and subsequent migration of small groups and swarms south to the northern Sahel. During the first week, immature adults and small immature groups were present near Illizi (2630N/0825E), Bordj El Haoues (2452N/0826E) and Djanet (2434N/0930E). A few maturing adults and one group of maturing adults were seen near Illizi. Immature adults and groups began to appear in the extreme south near the Niger border at In Guezzam (1937N/0552E) on 1 June and continued for two weeks; mature adults were reported during the last week. No further infestations were reported in the Illizi and Djanet areas after the first week of June or in the south after 15 June. Ground teams treated 987 ha in June.

- **FORECAST**

Small-scale breeding may occur in the extreme south in areas that receive rainfall, causing locust numbers to increase and small groups to form.

Morocco

- **SITUATION**

During June, isolated immature and mature solitarious adults persisted in the northeast near Bouarfa (3232N/0159W). A few adults were seen copulating near Figuig (3207N/0113W).

- **FORECAST**

Local hatching may occur in early July near Figuig but locust numbers will remain below threatening levels. No significant developments are likely.



No. 405



No. 405

DESERT LOCUST BULLETIN

Libya

- SITUATION

During June, the locust situation improved due to control operations and drying conditions in the southwest, and subsequent migration of small groups and swarms south to the northern Sahel. During the first week, only small groups of immature adults were seen on a farm south of Ghat (2459N/1011E) and scattered adults were present to the east. During the second week, there was an unconfirmed report of hopper bands in the southern part of the Al Hamada Al Hamra plateau near Dirj (3009N/1027E). No locusts were reported during the remainder of the month.

- FORECAST

A few residual infestations may still be present in parts of western Libya and perhaps in the centre southeast of Wadden. No significant developments are likely.

Tunisia

- SITUATION

No surveys were carried out and no locusts were reported in June.

- FORECAST

No significant developments are likely.

CENTRAL REGION

Sudan

- SITUATION

No reports were received during June.

- FORECAST

Low numbers of adults are likely to be present in parts of the summer breeding areas in the interior and breed on a small scale where rain has already fallen or will fall during the forecast period. Consequently, locust numbers will increase slightly but remain below threatening levels.

Eritrea

- SITUATION

No surveys were carried out and no locusts were reported in June.

- FORECAST

Small-scale breeding is expected to occur in the western lowlands, causing locust numbers to increase slightly.

Ethiopia

- SITUATION

No surveys were carried out and no locusts were reported in June.

- FORECAST

No significant developments are likely.

Djibouti

- SITUATION

No reports were received during June.

- FORECAST

No significant developments are likely.

Somalia

- SITUATION

No locusts were seen during a survey carried out in June on the northwest coast, escarpment and plateau west of Hargeisa (0931N/4402E).

- FORECAST

Isolated adults may appear on the plateau in areas of recent rainfall and breed on a small-scale. No significant developments are likely.

Egypt

- SITUATION

A late report indicated that no locusts were seen during surveys carried out in May in the southeast.

During June, no locusts were seen during surveys on the Red Sea coast near Shalatyn (2308N/3535E) and Abu Ramad (2224N/3624E), and near Lake Nasser in the Abu Simbel (2219N/3138E) and Al Allaqi areas.

- FORECAST

No significant developments are likely.

Saudi Arabia

- SITUATION

During June, no locusts were seen during surveys in the Asir Mountains east of Thuwal (2215N/3906E) and near Khamis Mushait (1819N/4245E) as well as in the interior.

- FORECAST

No significant developments are likely.

Yemen

- SITUATION

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

- FORECAST

Low numbers of adults are likely to be present in a few places along the Tihama where they could breed on a small scale in areas of recent rainfall.

Oman

• SITUATION

During June, scattered solitary, *transiens* and gregarious late instar hoppers, fledglings, immature and mature adults, including a few small groups, were present on the eastern coast north of Duqm (1939N/5743E) in Wadi Sarab (2010N/5748E) and Wadi Shital (2011N/5746E). Light damage was reported in date palms and alfalfa. Hoppers and immature adults were seen to the west near Hayma (1957N/5616E). In the Sharqiya region, late instar solitary and *transiens* hoppers mixed with solitary and gregarious adults, at densities up to 20 adults/m², were present on the northeastern side of the Wahiba Sands in Wadi Batha and in crops near Bidiya (2226N/5848E). No locusts were seen in Dakhliya and Musandam.

• FORECAST

As vegetation dries out, a few small groups of adults could continue to form and move into cropping areas. Unless rains fall in Sharqiya or in central areas, further breeding is not expected.

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 coastal plains near Jask (2540N/5746E) in June.

• FORECAST

No significant developments are likely.

Pakistan

• SITUATION

During June, a few mature adults were present in the northern interior of the spring breeding areas near Dalbandin (2856N/6430E) and fledglings were seen in the Shooli Valley near Turbat (2600N/6303E) and the coast. In the summer breeding areas, isolated mature adults appeared in Cholistan southeast of Rahimyar Khan (2822N/7020E) near the Indian border.

• Forecast

Locust numbers will decrease in the spring breeding areas in Baluchistan. Small-scale breeding will occur in Cholistan and parts of Tharparkar, causing locust numbers to increase slightly but remain below threatening levels.

India

• SITUATION

No locusts were seen during surveys carried out in Rajasthan and Gujarat during June.

• FORECAST

Low numbers of locusts will appear in Rajasthan. Small-scale breeding will occur once the monsoon rains commence in July.

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 (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.



No. 405

DESERT LOCUST BULLETIN

page 5 of 8



DESERT LOCUST BULLETIN

Locust tools and resources. FAO has developed a number of tools that National locust information officers and other interested individuals can use for Desert Locust early warning and management:

- **MODIS.** Vegetation imagery every 16 days (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/.Regional/.MODIS/index.html)
- **MODIS.** Daily rainfall imagery in real time (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/index.html)
- **RFE.** Rainfall estimates every day, decade and month (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/index.html)
- **Greenness maps.** Dynamic maps of green vegetation evolution every decade (<http://www.devcoast.eu/user/images/dl/Form.do>)
- **FAODLIS Google site.** A platform for sharing problems, solutions, tips and files for eLocust2, eLocust2Mapper, RAMSES and remote sensing (<https://sites.google.com/site/faodlis>)
- **FAOLOLUST Twitter.** The very latest updates are posted on Twitter (<http://twitter.com/faolocust>)
- **FAOLocust Facebook.** A social means of information exchange using Facebook (<http://www.facebook.com/pages/FAOLocust/314165595289302>)
- **Slideshare.** Locust presentations and photos available for viewing and download (<http://www.slideshare.net/faolocust>)
- **eLERT.** A dynamic and interactive online database of resources for locust emergencies (<http://sites.google.com/site/elertsite>)

SWAC website. A new website for the FAO Commission for Controlling the Desert Locust in South-West Asia (SWAC) is now available at <http://www.fao.org/ag/locusts/SWAC>. Comments are welcome.

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 Control Committee working papers.** Information Section

- **Sahel Crises – funding and action plan.** Information Section
- **Press Release (5 June).** Information Section

2012 events. The following activities are scheduled or planned:

- **CLCPRO/EMPRES-WR.** Western Region Locust Information Officer workshop, Dakar (16-18 July)
- **SWAC.** 28th Session, New Delhi, India (December, tbc)

**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.

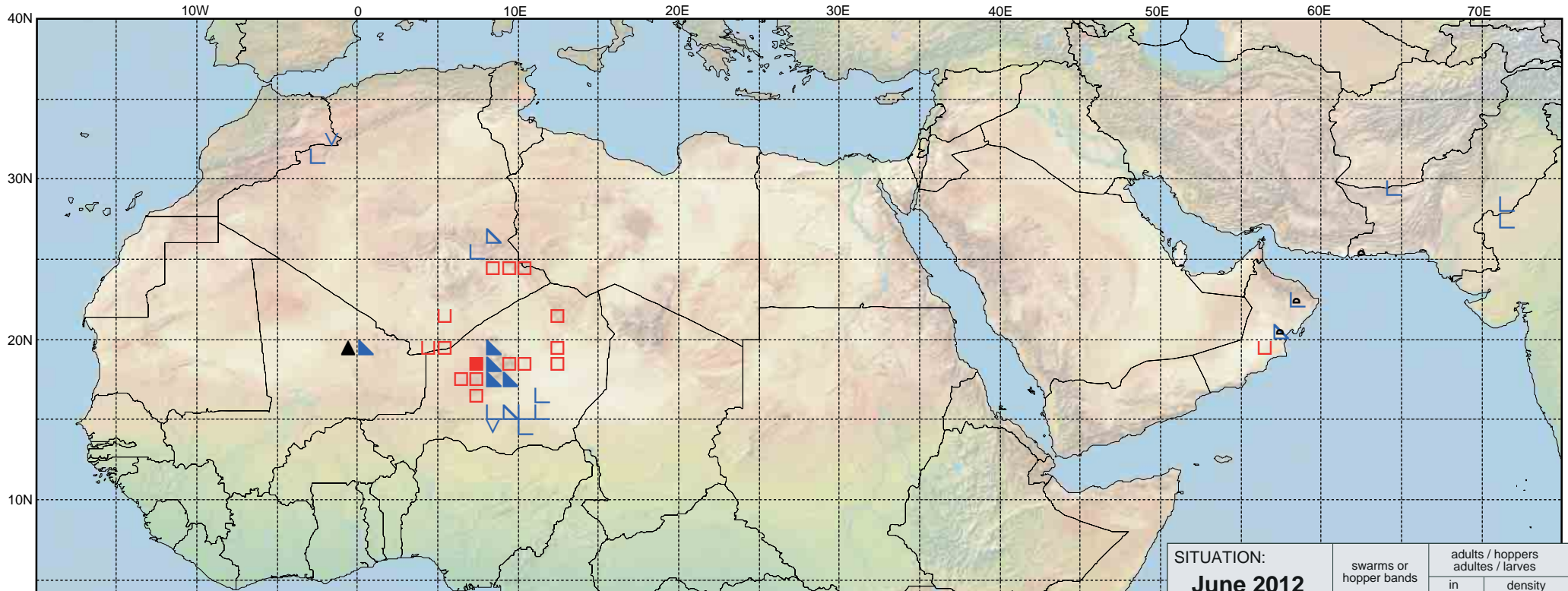


No. 405



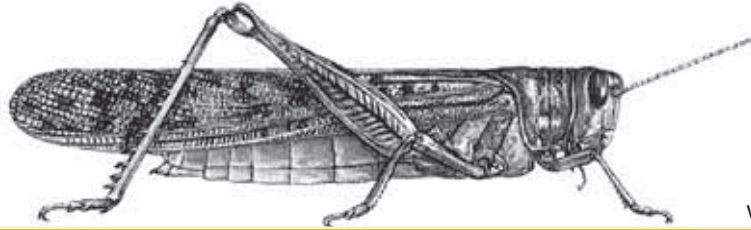
Desert Locust Summary

Criquet pèlerin - Situation résumée



FORECAST TO: PREVISION AU:	15.08.12	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: June 2012 juin 2012	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)			



warning level: **THREAT**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 406



**General Situation during July 2012
Forecast until mid-September 2012**

(3 Aug 2012)

The Desert Locust situation continued to remain serious during July as egg laying occurred in northern Niger and Mali. So far, only limited hatching has been reported in Niger but additional hatching is expected in both countries that will cause locust numbers to increase. Hoppers could form groups and bands in August, and adult groups and small swarms could develop in September. Smaller infestations were present in southern Mauritania, southern Algeria and eastern Chad where small-scale local breeding will cause locust numbers to increase during the forecast period. Survey operations should be maintained in all affected countries and control operations carried out when possible in order to reduce locust numbers and the potential threat to crops and pastures.

Western Region. Breeding commenced during July in the summer breeding areas of the northern Sahel in southeast Mauritania, northern Mali, and central and northern Niger. Groups of adults were reported in parts of northern Mali and Niger, and near the Sudanese border in eastern Chad. By the end of the month, more adult groups were found on the Tamesna Plains in northeast Mali near the border of Niger where they were laying eggs. Scattered solitary adults were present in southern Mauritania, southern Algeria and eastern Chad. So far, only low numbers of hoppers have hatched but additional hatching will occur during August, mainly in Niger and Mali and,

to a lesser extent in Mauritania, Chad and southern Algeria. Hoppers may form groups and bands in Mali and Niger where fledging is expected to commence in about mid-August and adults could form small groups and swarms. All efforts are required to undertake the necessary survey and control operations in those areas that are secure.

Central Region. Small-scale breeding commenced in eastern Sudan during July while scattered mature solitary adults were present elsewhere in the summer breeding areas in the interior. Similar populations are likely to be present in western Eritrea. Groups of immature adults were reportedly present in West and North Darfur where continued insecurity limits survey operations. Small-scale breeding will cause locust numbers to increase slightly during the forecast period in Sudan and Eritrea. Locust numbers declined in Oman where only low numbers of immature adults persisted in a few places in the northeast. No locusts were reported elsewhere in the region.

Eastern Region. Low numbers of solitary adults were present during July along both sides of the Indo-Pakistan border in Rajasthan, India and Cholistan, Pakistan. The seasonal monsoon arrived in these areas by mid-month but rains have been poor so far. Consequently, ecological conditions were only slowly becoming favourable for breeding that should occur during the forecast period. No significant developments are likely.

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 are available on the Internet.

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No. 406

DESERT LOCUST BULLETIN



Weather & Ecological Conditions in July 2012

Good rains fell in the northern Sahel from Mauritania to western Eritrea where ecological conditions were favourable for breeding in most areas. Poor monsoon rains fell along both sides of the Indo-Pakistan border.

In the **Western Region**, the Inter-Tropical Convergence Zone (ITCZ) returned to its long-term seasonal average position over West Africa by the end of July where it was located between 18N and 19N. Consequently, good rains fell in southern Mauritania, northern Mali (Timetrine, Tilemsi Valley, Adrar des Iforas, Tamesna), central and northern Niger (Tamesna, Air Mountains, pasture areas), and central and northeast Chad. Ecological conditions were favourable for breeding in most of these areas. No significant rain fell in the northern Tamesna of northeast Mali and northern Niger, or in western Mauritania. In northwest Africa, light rain fell in a few places south of the Hoggar Mountains in southern Algeria. As a result, vegetation was becoming green in the extreme south along the border of Mali (near Bir Bou Mokhtar) and Niger (near In Guezzam). Vegetation was drying out in the Western Sahara in Morocco where good rains fell in June. Dry conditions prevailed elsewhere in the region.

In the **Central Region**, good rains fell as far north as 16N in the summer breeding areas in the interior of Sudan and western Eritrea during July. Consequently, ecological conditions became favourable for breeding in West and North Darfur (north of Mellit), North Kordofan (to Abu Uruq), Khartoum and Kassala states in Sudan, and in the western lowlands in Eritrea. Vegetation remained dry on the northern Red Sea coast in Eritrea and in northern Somalia. Light rain fell in eastern Ethiopia between Dire Dawa and Jigjiga. In Yemen, light to moderate rains fell along parts of the Red Sea coast and in the interior near Hadhramaut and Ataq. Consequently, ecological conditions should become favourable for small-scale breeding in both countries. Conditions were dry or drying in northern Oman.

In the **Eastern Region**, the summer monsoon reached Rajasthan, India and adjacent areas of eastern Pakistan during the second week of July. So far, rainfall associated with the monsoon has been poor and well below long-term normal averages. Only light showers fell in eastern Rajasthan, and near the Indo-Pakistan border in Tharparkar and Cholistan deserts in Pakistan. Consequently, ecological conditions were only slowly becoming favourable for breeding and were limited to a few areas in both countries.



Area Treated

Niger 1,147 ha (June)
50 ha (1-4 July)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

During July, scattered mature solitary adults were present at densities up to 300 adults/ha mainly in the southeast (Hodh Ech Chargui) and, to a lesser extent, in parts of southern Hodh El Gharbi, northern Gorgol and southwest Tagant. Egg-laying and low numbers of second and third instar solitary hoppers were seen in Hodh Ech Chargui.

• FORECAST

Small-scale breeding will continue in the south, causing locust numbers to increase slightly. There is a low risk that a few small adult groups could arrive from adjacent areas in northern Mali.

Mali

• SITUATION

During July, a group of mature adults was seen in the north between Gao (1616N/0003W) and Kidal (1827N/0125E) in W. Edjerer (1748N/0103W) on the 16th. Isolated immature and mature adults were present in the Tilemsi Valley at Taouloust (1919N/0033E). At the end of the month, scattered immature and mature adults were reported in the central Tamesna at Laya (1759N/0325E), and groups of immature and mature solitary and *transiens* adults were seen between Tin Amazagh (1739N/0350E) and the Niger border. Some of the adults were laying eggs. In central Mali, no locusts

were seen during surveys carried out north of Segou (1326N/0616W) and east of Mopti (1430N/0415W).

- **FORECAST**

Breeding is expected to occur in areas of recent rainfall in Tamesna, Adrar des Iforas and Timetrine, causing locust numbers to increase. Hoppers are likely to form small groups and bands in August, and adults could form small groups and swarms in September. All efforts are required to undertake the necessary survey and control operations.

Niger

- **SITUATION**

During July, adults dispersed and laid eggs in the north (Tamesna and Air Mountains) and in the centre (Agadez (1700N/0756E) to Zinder (1346N/0858E)). Hatching commenced near In Gall (1651N/0701E) and Tanout (1458N/0852E) during the first week, and isolated solitary hoppers were present. Groups of mature adults were seen in Tamesna between In Gall and Tegguidda (1726N/0637E) and in the southeast of the Air Mountains. Ground teams treated 50 ha in the eastern Air Mountains.

- **FORECAST**

Hatching will continue in the north and centre where hoppers may form groups and bands in some places. Fledging is expected to commence in about mid-August and adults could form small groups and swarms. All efforts are required to undertake the necessary survey and control operations.

Chad

- **SITUATION**

In early July, a group of immature adults was reported in the east at Dissé (1343N/2206E) near Adre (1328N/2212E) and the Sudanese border. During the remainder of the month, low numbers of mature solitary adults were present near Abeche (1349N/2049E). No locusts were seen south of Nokou (1435N/1446E) in southwest Kanem.

- **FORECAST**

Small-scale breeding will cause locust numbers to increase slightly in areas of recent rainfall in Kanem, Batha, Biltine and, perhaps, Tibesti. Regular surveys are recommended in all areas.

Senegal

- **SITUATION**

No surveys were carried out and no locusts were reported in 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, isolated mature solitary adults persisted in the extreme south near In Guezzam (1937N/0552E) and the Niger border. No locusts were seen during surveys along the Mali border near Bir Bou Mokhtar (2119N/0057E).

- **FORECAST**

Small-scale breeding may occur in the extreme south in areas that receive rainfall, causing locust numbers to increase.

Morocco

- **SITUATION**

During July, isolated mature solitary adults persisted in the northeast near Figuig (3207N/0113W) and the Algerian border.

- **FORECAST**

No significant developments are likely.

Libya

- **SITUATION**

No locusts were reported during July.

- **FORECAST**

No significant developments are likely.

Tunisia

- **SITUATION**

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

- **FORECAST**

No significant developments are likely.

CENTRAL REGION

Sudan

- **SITUATION**

A late report indicated that no surveys were carried out in June. However, there was a report from North Darfur of an immature group of adults northwest of Mellit (1407N/2543E) on the 24th.

During July, mature solitary adults were present in North Kordofan between Umm Badr (1413N/2758E)



No. 406



No. 406

DESERT LOCUST BULLETIN

and the Nile River, in the southern Baiyuda Desert, and in the north near Dongola (1910N/3027E). Egg laying was in progress in the east between Kassala (1527N/3623E) and Derudeb (1731N/3607E). Groups of immature adults were reportedly present in West and North Darfur.

- **FORECAST**

Small-scale breeding will cause locust numbers to increase but remain below threatening levels in North Kordofan, River Nile, Northern and Kassala states. Breeding is also expected to occur in West and North Darfur where hoppers and adults could form small groups.

Eritrea

- **SITUATION**

During July, no locusts were seen in the winter breeding areas along the northern Red Sea coast between Afabet (1612N/3841E) and Mehimet (1723N/3833E).

- **FORECAST**

Small-scale breeding is expected to occur in the western lowlands, causing locust numbers to increase slightly. Surveys should be carried out to monitor the situation.

Ethiopia

- **SITUATION**

No locusts were seen during surveys carried out in the north and east of the country in July.

- **FORECAST**

No significant developments are likely.

Djibouti

- **SITUATION**

No reports were received during July.

- **FORECAST**

No significant developments are likely.

Somalia

- **SITUATION**

No reports were received during July.

- **FORECAST**

No significant developments are likely.

Egypt

- **SITUATION**

During July, no locusts were seen during surveys on

the Red Sea coast between Shalatyn (2308N/3535E) and the Sudanese border, and near Lake Nasser in the Abu Simbel (2219N/3138E) and Al Allaqi areas.

- **FORECAST**

No significant developments are likely.

Saudi Arabia

- **SITUATION**

During July, no locusts were seen during surveys in the Asir Mountains or in the interior.

- **FORECAST**

No significant developments are likely.

Yemen

- **SITUATION**

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

- **FORECAST**

Low numbers of adults are likely to be present in a few places along the Tihama where they could breed on a small scale in areas of recent rainfall. Small-scale breeding could also occur in the summer breeding areas of the interior in areas of recent rainfall.

Oman

- **SITUATION**

During July, low numbers of immature solitarious adults persisted in a few places near the eastern coast north of Duqm (1939N/5743E) and in the Sharqiya region on northeastern side of the Wahiba Sands near Bidiya (2226N/5848E).

- **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 during surveys carried out on the southern coastal plains near Jask (2540N/5746E) in July.

- **FORECAST**

No significant developments are likely.

Pakistan

- **SITUATION**

During the first half of July, no locusts were seen during surveys carried out in the summer breeding areas of Cholistan and Tharparkar deserts. During the second fortnight, isolated mature solitarious adults

were seen at 8 places in Cholistan near the Indian border.

- **Forecast**

Small-scale breeding will occur in parts of Cholistan and Tharparkar, causing locust numbers to increase slightly but remain below threatening levels.

India

- **SITUATION**

During July, low numbers of mature solitary adults were present in Rajasthan between Bikaner (2801N/7322E) and the Pakistani border.

- **FORECAST**

Small-scale breeding will occur in parts of Rajasthan, causing locust numbers to increase slightly but remain below threatening levels.

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/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.

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

- **Desert Locust situation updates.** Archives Section – Briefs
- **Sahel Crises.** Information Section
- **Press Release (17 July).** Information Section



No. 406

DESERT LOCUST BULLETIN

page 5 of 8



No. 406

DESERT LOCUST BULLETIN

Sahel locust threat. An updated information package explains the current threat to the Sahel in West Africa by Desert Locust. It is available at: <http://www.fao.org/ag/locusts/en/info/2002/index.html>.

2012 events. The following activities are scheduled or planned:

- **CRC.** 28th Session, Jeddah, Saudi Arabia (24-28 November)
- **SWAC.** 28th Session, New Delhi, India (5-7 December, tbc)

Hassan Ali. It is with deep regret that we announce the death of Hassan Ali on 6 July 2012. He was the Assistant Director of the National Locust Centre (ANLA) in Chad. His enthusiasm and energetic manner will be truly missed by all colleagues. We would like to express our sincere condolences to his family and government.



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.



No. 406

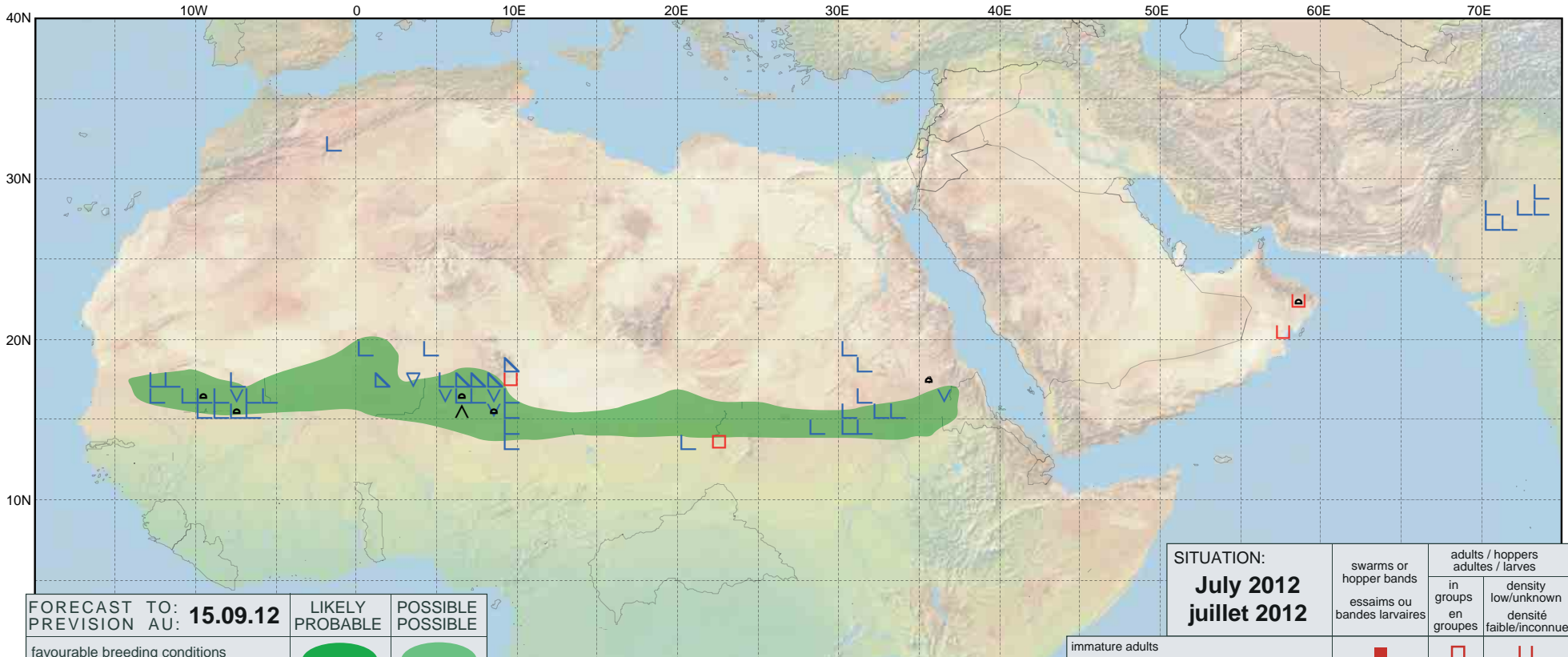
DESERT LOCUST BULLETIN

page 7 of 8



Desert Locust Summary

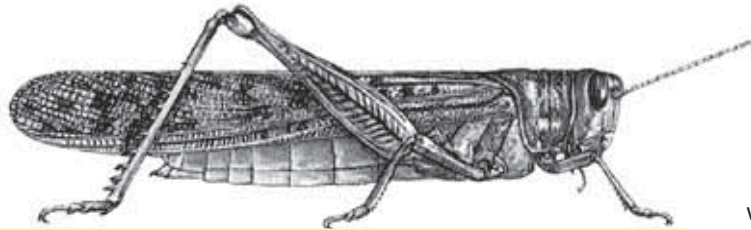
Criquet pèlerin - Situation résumée



FORECAST TO: PREVISION AU: 15.09.12	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 2012 juillet 2012	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)			



warning level: **THREAT**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 407



**General Situation during August 2012
Forecast until mid-October 2012**

(3 Sep 2012)

The Desert Locust situation continued to remain serious during August as widespread breeding occurred in Niger. The situation is less clear in northern Mali but is likely to be similar. Breeding on a smaller scale occurred in Mauritania and Chad. Only low numbers of adults were reported in Sudan and along the Indo-Pakistan border. During the forecast period, a second generation of breeding will occur in Niger and probably in Mali, causing locust numbers to increase further. As vegetation dries out, small groups, bands and swarms are expected to form in both countries from October onwards. Survey operations should be maintained in all affected countries and control operations carried out when possible in order to reduce locust numbers, the potential threat to crops and pastures and eventual migration to Northwest Africa.

Western Region. Breeding continued in the summer breeding areas of the northern Sahel, mainly in Niger within a large portion of the northern desert and in the central pasture zone, and to a lesser extent in Mauritania and Chad. The situation is less clear in northern Mali due to insecurity but there was an unconfirmed report in late August of hopper bands, suggesting that significant breeding may be in progress. During August, green vegetation extended over a much larger area of the northern Sahel compared to the same time last year. In some places, it was present 100-150 km further north than

usual. This suggests that conditions are favourable for a second generation of breeding in Mali and Niger which is likely to commence in about mid-September and cause locust numbers to increase, perhaps dramatically, in October. Once vegetation begins to dry out, locusts will concentrate and gregarize, forming small groups, bands and swarms from October onwards. Migration to northwest Mauritania and to southern Algeria and Libya will probably not occur until after October. No locusts were reported elsewhere in the region.

Central Region. Low numbers of solitary adults were present in parts of the summer breeding areas in Sudan where ecological conditions are more favourable than usual. Small-scale breeding is almost certainly in progress and will continue during the forecast period in these areas as well as in the western lowlands in Eritrea. Limited breeding could also occur in areas of recent rainfall on the Red Sea coast of Yemen and in the interior. No locusts were reported elsewhere in the region.

Eastern Region. Low numbers of solitary adults were present in one area along both sides of the border in Rajasthan, India and Cholistan, Pakistan during August. Although the monsoon rains have been relatively poor so far this year, ecological conditions are favourable to allow small-scale breeding in a few areas along both sides of the Indo-Pakistan border. No significant developments are likely.

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 are available on the Internet.

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Internet: www.fao.org/ag/locusts

Facebook: www.facebook.com/pages/FAOLocust/314165595289302

Twitter: twitter.com/faolocust



No. 407

DESERT LOCUST BULLETIN



Weather & Ecological Conditions in August 2012

Good rains continued to fall in the summer breeding areas of the Sahel from Mauritania to Sudan where conditions are much more favourable for breeding than usual. Green vegetation extended over a much larger area and was further north this year compared to August 2011.

In the **Western Region**, the Inter-Tropical Convergence Zone (ITCZ) position was slightly further north during this month compared to previous years, reaching Akjoujt (Mauritania), north of Tessalit (Mali), Iferouane (Niger), and Faya (Chad). Consequently, good rains fell in central and southern Mauritania, central Mali, central and northern Niger (Tamesna, Air Mountains, pasture areas), central and northeast Chad, and south of Tamanrasset in southern Algeria. Showers were weaker and more variable in northern Mali (Adrar des Iforas, Tamesna). The extent of greening and green vegetation in the summer breeding areas was much greater during August of this year compared to last year at the same time, especially in the main wadis in the Adrar des Iforas, the southern Tamesna Plains in Mali and Niger, the pasture areas in central Niger, and in northeast Chad from Abeche to Fada. In many areas, green vegetation was present some 100-150 km further north than usual. As a result, breeding conditions are favourable over a much greater area than one year ago.

In the **Central Region**, the ITCZ reached as far north as Merowe, Sudan and good rains fell up to Dongola and east to the Eritrean Highlands during August. Consequently, vegetation was green west of the Nile up to 200 km further north than usual. Ecological conditions were favourable for breeding over a much larger area of the interior of Sudan and western Eritrea than last year at this time. Good rains fell in eastern Ethiopia and vegetation was becoming green near Dire Dawa. Good rains also fell on the Red Sea coast and in the Hadhramaut interior of Yemen, but vegetation remained generally dry.

In the **Eastern Region**, light to moderate monsoon rains fell in parts of Rajasthan, India and adjacent

areas of Tharparkar and Cholistan deserts in Pakistan during August. Although the monsoon rains this year in western Rajasthan (Jaisalmer) are about 25% below the long-term average, they are sufficient for Desert Locust breeding. Heavier rains fell in eastern Rajasthan (Jodhpur-Barmer). As a result, green vegetation coverage was spotty, mainly concentrated in a few places of Tharparkar, in parts of Rajasthan near Barmer, Jaisalmer and Bikaner, and on the border near Ranakdhar (Tharparkar) and Ghotki district, Pakistan.



Area Treated

No control operations were reported during August.



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

During the first decade of August, scattered mature solitary adults were present in the centre and south from Moudjeria (1752N/1219W) to Nema (1636N/0715W). Some of the adults were copulating. Small-scale breeding continued during the month between Aioun El Atrous (1639N/0936W) and Nema where low numbers of solitary hoppers were present and immature adults were seen from the second week onwards.

• FORECAST

Small-scale breeding will continue in the south, causing locust numbers to increase slightly. Fledging is likely to take place until the end of September while a second generation of egg-laying could start by mid-September in those areas that remain favourable with hatching in early October. Scattered adults may appear in the west and northwest by the end of the forecast period.

Mali

• SITUATION

During August, no locusts were seen during surveys carried out near Kayes (1426N/1128W) in the west and between Nara (1510N/0717W) and Mopti (1430N/0415W) in the centre of the country. On the 26th, there was an unconfirmed report of hopper bands in the Adrar des Iforas at In Adjerakane (1831N/0208E) between Kidal (1827N/0125E) and Tin Essako (1826N/0229E). Regular surveys could not be

undertaken in the north due to insecurity.

- **FORECAST**

A second generation of breeding is expected to occur in parts of Tamesna, Adrar des Iforas and Timetrine, causing locust numbers to increase further. Hatching is likely to commence by the end of September and hoppers are likely to form small groups and bands in October. All efforts are required to undertake the necessary survey and control operations.

Niger

- **SITUATION**

During August, egg-laying and hatching continued within a widespread area of southern and central Tamesna, the Air Mountains, and in central pasture areas between Filingué (1421N/0319E), Tahoua (1457N/0519E), Tanout (1458N/0852E), and Termit (ca. 1540N/1125E). Solitarious hoppers of all instars were present. Fledging commenced during the second week, and solitarious adults were maturing in most areas by the end of the month. Immature and mature solitarious adults were also seen northwest of Filingué and in the south between Zinder (1346N/0858E), Diffa (1318N/1236E) and the Chad border.

- **FORECAST**

A second generation of breeding is likely to commence by mid-September with hatching during October. As vegetation dries out, hoppers are expected to concentrate and form small groups and bands while adults could form small groups and swarms. All efforts are required to undertake the necessary survey and control operations.

Chad

- **SITUATION**

At the end of August, isolated first to third instar hoppers mixed with immature and mature solitary adults were present in a few places in the east near Arada (1501N/2040E) while only isolated adults were seen near Abeche (1349N/2049E). No locusts were seen in Kanem.

- **FORECAST**

Small-scale breeding will cause locust numbers to increase mainly in the east and northeast. Fledging is expected to occur from mid-September onwards. Regular surveys are recommended in all areas.

Senegal

- **SITUATION**

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

- **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**

No locusts were seen during helicopter surveys undertaken in the south between Tamanrasset (2250N/0528E) and the borders of Niger and Mali from 28 July to 6 August.

- **FORECAST**

Small-scale breeding may occur in the extreme south in areas of recent rainfall along the border of Mali and Niger, causing locust numbers to increase.

Morocco

- **SITUATION**

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

- **FORECAST**

No significant developments are likely.

Libya

- **SITUATION**

No reports were received during August.

- **FORECAST**

No significant developments are likely.

Tunisia

- **SITUATION**

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

- **FORECAST**

No significant developments are likely.

CENTRAL REGION

Sudan

- **SITUATION**

During August, low numbers of mature solitarious adults, up to 250 adults/ha, were seen in Northern Kordofan near El Obeid (1311N/3010E) and in River Nile State near Atbara (1742N/3400E) and Berber (1801N/3400E).

- **FORECAST**

Small-scale breeding is almost certainly in progress and will continue during the forecast period, causing



No. 407



No. 407

DESERT LOCUST BULLETIN

locust numbers to increase but remain below threatening levels in West and North Darfur, Northern Kordofan, River Nile, Northern and Kassala states.

Eritrea

- SITUATION

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

- FORECAST

Small-scale breeding is expected to occur in the western lowlands, causing locust numbers to increase slightly. Surveys should be carried out to monitor the situation.

Ethiopia

- SITUATION

During August, no locusts were seen during surveys carried out in the east near Dire Dawa (0935N/4150E) and in the northeast near Kombolcha (1107N/3944E).

- FORECAST

No significant developments are likely.

Djibouti

- SITUATION

No reports were received during August.

- FORECAST

No significant developments are likely.

Somalia

- SITUATION

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

- FORECAST

No significant developments are likely.

Egypt

- SITUATION

During August, no locusts were seen during surveys on the Red Sea coast south of Shalatyn (2308N/3535E).

- FORECAST

No significant developments are likely.

Saudi Arabia

- SITUATION

During August, no locusts were seen during surveys carried out in the Asir Mountains near Al Barzah (2157N/3942E) and Khamis Mushait (1819N/4245E),

and in the interior.

- FORECAST

No significant developments are likely.

Yemen

- SITUATION

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

- FORECAST

Low numbers of adults are likely to be present in a few places along the Tihama where they could breed on a small scale in areas of recent rainfall. Small-scale breeding could also occur in the summer breeding areas of the interior in areas of recent rainfall.

Oman

- SITUATION

During August, no locusts were seen during surveys carried out in Dakhliya Region between Ibri (2314N/5630E) and Nizwa (2255N/5731E). No locusts were reported in other regions.

- 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 reports were received during August.

- FORECAST

No significant developments are likely.

Pakistan

- SITUATION

During the first half of August, no locusts were seen during surveys carried out in the summer breeding areas of Cholistan. During the second half of the month, isolated mature solitary adults were seen at eight places south of Rahimyar Khan (2822N/7020E) along the Indian border.

- Forecast

Small-scale breeding will occur in parts of Cholistan and Tharparkar, causing locust numbers to increase slightly but remain below threatening levels.

India

- SITUATION

During August, isolated mature solitary adults were present at a few locations north of Jaisalmer (2652N/7055E) near the Pakistani border.

- **FORECAST**

Small-scale breeding will occur in parts of Rajasthan, causing locust numbers to increase slightly but remain below threatening levels.

Afghanistan

- **SITUATION**

No reports received.

- **FORECAST**

No significant developments are likely.



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- **Sahel Crises.** Information Section

Sahel locust threat. An updated information package explains the current threat to the Sahel in West Africa by Desert Locust. It is available at: <http://www.fao.org/ag/locusts/en/info/2002/index.html>.

2012 events. The following activities are scheduled or planned:

- **CLCPRO.** Experts meeting on locust threat in Sahel, Nouakchott, Mauritania (3-5 September)
- **CRC.** 28th Session, Jeddah, Saudi Arabia (24-28 November)
- **SWAC.** 28th Session, New Delhi, India (5-7 December)



No. 407

DESERT LOCUST BULLETIN



No. 407

DESERT LOCUST BULLETIN



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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.



No. 407

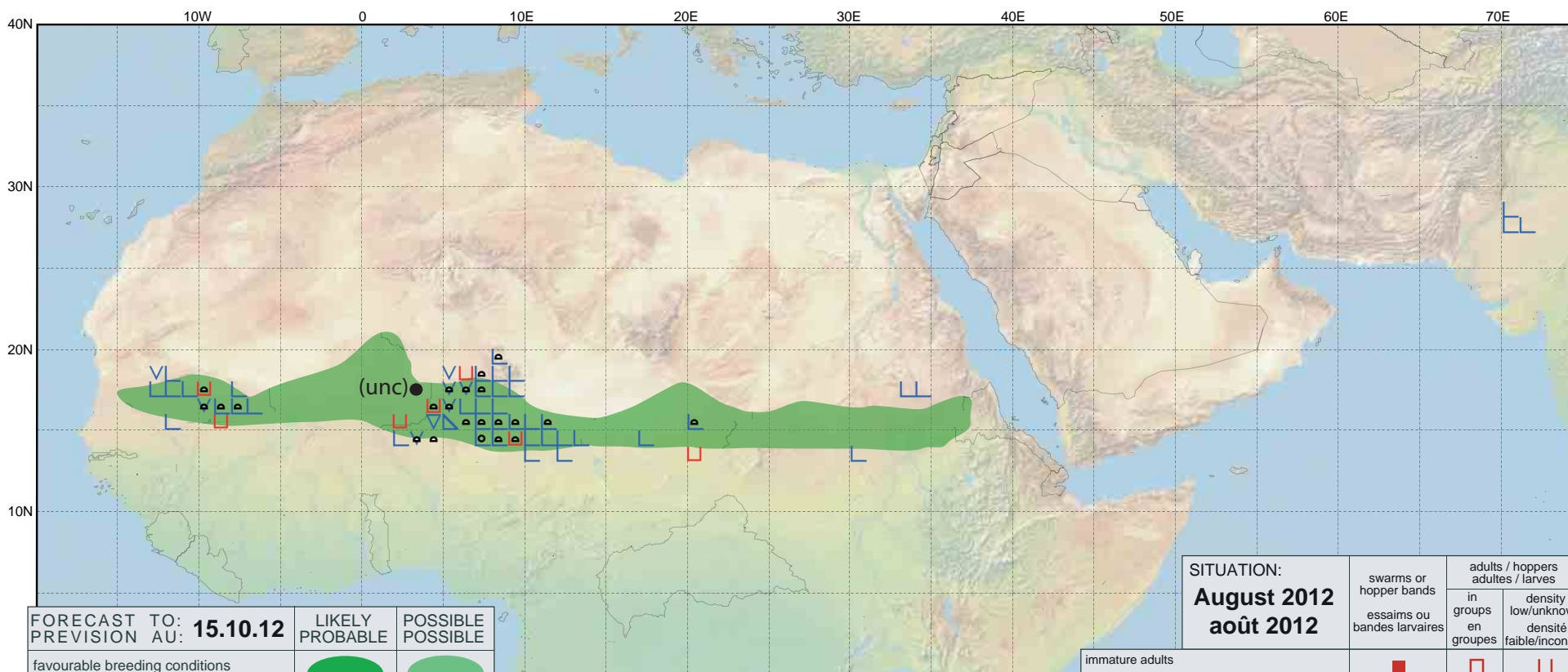
DESERT LOCUST BULLETIN

page **7** of 8



Desert Locust Summary

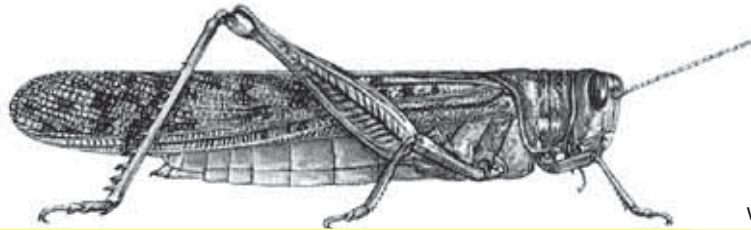
Criquet pèlerin - Situation résumée



FORECAST TO: PREVISION AU:	LIKELY PROBABLE	POSSIBLE POSSIBLE
15.10.12		
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: August 2012 août 2012	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)			



warning level: **THREAT**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 408



**General Situation during September 2012
Forecast until mid-November 2012**

(2 Oct 2012)

The Desert Locust situation remained serious during September as a second generation of breeding commenced in northern Mali, Niger and Chad. This will cause locust numbers to increase further. As vegetation dries out, hopper bands and swarms are likely to form. From mid-October onwards, there is an increasing risk that adult groups and small swarms will move out of the Sahel and into Northwest Africa and, to a lesser extent, into cropping areas in Mali and Niger. The situation is further compounded by insecurity in northern Mali and in parts of northern Niger. Surveys should be maintained in all affected countries and control operations carried out when appropriate in order to reduce locust numbers and the potential threat to crops and pastures. All countries in the region should remain on high alert. Elsewhere, locusts were concentrating in parts of Sudan while monsoon rains ended along the Indo-Pakistan border where the situation remains calm.

Western Region. A second generation of breeding commenced in early September in northern Mali, Niger and Chad. Hoppers and adults formed small groups in northeast Mali, groups of adults were present in central Niger, and small hopper bands formed in northeast Chad. Control teams treated 626 ha in Chad. Small-scale breeding occurred in southeast Mauritania and started in the west. Relatively large numbers of locusts are thought to be

scattered throughout a large portion of the northern Sahel. During the forecast period, locust numbers will increase further as breeding continues. As vegetation dries out, the scattered locusts will concentrate, hoppers will form small groups and bands while adults will form groups and small swarms that are likely to migrate from late October onwards towards southwest and central Libya, southern and central Algeria and northwest Mauritania. Some locusts could reach areas of recent rainfall in the Western Sahara and western Algeria while others could move into cropping areas in Mali and Niger.

Central Region. Small-scale breeding during September caused locust numbers to increase in the summer breeding areas of the interior of Sudan where they were scattered over a large area between Darfur and the Red Sea Hills. By the end of the month, small groups and one small swarm formed to the northwest of Khartoum, and control teams treated 41 ha. As vegetation dries out during the forecast period, locusts will continue to concentrate and are likely to form additional groups. Therefore, intensive surveys should be maintained in all areas. No locusts were reported elsewhere in the Region, except for a few adults on a farm in the interior of Saudi Arabia.

Eastern Region. Low numbers of solitary adults persisted in a few places along both sides of the border in Rajasthan, India and in adjacent areas in Pakistan during September where small-scale breeding occurred. As the monsoon rains ended in mid-September, locust numbers will decline as vegetation dries out. No significant developments are likely.

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 are available on the Internet.

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No. 408

DESERT LOCUST BULLETIN



Weather & Ecological Conditions in September 2012

Good rains continued to fall in much of the summer breeding areas of the Sahel from Mauritania to Eritrea where conditions remained favourable for breeding. The monsoon rains came to an end along the Indo-Pakistan border at mid-month.

In the **Western Region**, the Inter-Tropical Convergence Zone (ITCZ) began its southern retreat in early September but then pushed anomalously northward again during the second decade of the month, up to 300 km further north than usual, before moving southwards again in the last decade. Strong southerly winds were associated with the northward movement, resulting in late and above-average rains across Mauritania, central and northern Mali, and in parts of Niger and Chad during the first three weeks of the month. Thereafter, very little rain fell except in southeast Mauritania. Consequently, ecological conditions remained extremely favourable for breeding throughout southern and central Mauritania, in northern Mali (Adrar des Iforas, Tamesna), northern and central Niger (Tamesna, Air, pasture areas), and in central and eastern Chad (Kanem, Batha, Biltine). Unusually favourable conditions developed in northeast Chad along the southern side of the Ennedi Plateau and in parts of the Mourdi Depression. Vegetation started to dry out in a few places of southeastern Mauritania after mid-month but was becoming green in the west (Trarza). In Northwest Africa, widespread light to moderate showers, associated with Tropical Storm Nadine located west of the Canary Islands, fell over Western Morocco and southern Morocco on 22-24 September, extending to north and northwest Mauritania. The heaviest rainfall occurred in the central Western Sahara. Good rains also fell in western Algeria and near the Niger border at In Guezzam (45 mm).

In the **Central Region**, good rains continued to fall during September in the summer breeding areas of the interior in Sudan south of 15N. The rains extended to 18N over eastern Sudan and the western lowlands in Eritrea. Consequently, ecological conditions remained favourable for breeding in Northern Darfur,

Northern Kordofan, River Nile, Northern and Kassala States in Sudan, and in western Eritrea. Vegetation was becoming green in Khartoum State. Light to moderate rains fell on the Red Sea coast in Yemen as well as in eastern Ethiopia, extending to the plateau in northern Somalia.

In the **Eastern Region**, light to moderate rains associated with the seasonal monsoon fell over most parts of Rajasthan, India and in adjacent areas of Tharparkar, Khairpur and Cholistan deserts in Pakistan during the first half of September. Thereafter, the monsoon withdrew towards the southeast and no significant rain fell. Nevertheless, vegetation remained green and ecological conditions were favourable for small-scale breeding in both countries.



Area Treated

Chad	626 ha (September)
Sudan	41 ha (September)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

During September, small-scale breeding continued in the southeast from north of Aioun El Atrous (1639N/0936W) to east of Nema (1636N/0715W) where low numbers of solitary hoppers of mainly late instars and immature and mature adults were present. Further west, locust numbers increased slightly as adults appeared in Kiffa, western Tagant, northern Brakna and eastern Trarza. Solitary hoppers of all instars were present near Tidjikja (1833N/1126W) and Moudjeria (1752N/1219W) where small-scale laying occurred during the second half of August and early September. Breeding was reported southeast of Aguila Faye (1827N/1444W) in the Aouker of Trarza at mid-month and at the end of the month in Inchiri, southeast of Akjoujt (1945N/1421W), and in southwest Adrar.

• FORECAST

Locust numbers will decline in the southeast but increase in the west (Trarza, northern Brakna, western Tagant) and northwest (Inchiri, Dakhlet Nouadhibou, southwest Adrar) as adults arrive from the southeast and small-scale breeding occurs. There is an increasing risk of small groups and swarms arriving in these areas from northern Mali after mid-October.

Mali

• SITUATION

During September, solitary adults were maturing in the northeast between Kidal (1827N/0125E) and Tin Essako (1826N/0229E) in the southern Adrar des Iforas and on the Tamesna Plains between Tin Essako and the Niger border. Adult densities increased from 400 adults/ha during the first decade of the month to 5,000 adults/ha in the second decade, and an increasing number of infestations were found in the Tamesna where a second generation of egg-laying had commenced earlier in the month. First generation solitary and *transiens* hoppers of all instars and maturing adults formed small groups in at least one location in the Tamesna by mid-month. No locusts were seen during surveys in central and western areas near Mopti (1430N/0415W), Nara (1510N/0717W), Niore (1512N/0935W) and Kayes (1426N/1128W).

• FORECAST

A second generation of breeding will continue in Tamesna and probably in parts of the Adrar des Iforas, causing locust numbers to increase. Hoppers will be present during October with fledging likely to commence after mid-month and continue into November. As vegetation dries out, hoppers will concentrate and form small groups and bands while adults will form groups and small swarms that are likely to migrate mainly towards the north and northwest while a few could move to central and western Mali.

Niger

• SITUATION

During September, first generation solitary adults continued to mature between Tanout (1458N/0852E) and Agadez (1700N/0756E), between Tahoua (1457N/0519E) and Filingué (1421N/0319E), and north of Diffa (1318N/1236E) near the Chad border. A second generation of breeding commenced early in the month south of Agadez and In Gall (1651N/0701E). By mid-month, egg-laying was reported west of Tahoua where groups of immature and mature adults were present. No locusts were seen south of Tahoua and Filingué or near Zinder (1346N/0858E). No surveys were carried out during the last decade of the month.

• FORECAST

A second generation of breeding will continue in central pasture areas, on the Tamesna Plains and perhaps in parts of the Air Mountains, causing locust numbers to increase. Hoppers will be present during October with fledging likely to commence after mid-month and continue into November. As vegetation dries out, hoppers will concentrate and form small groups and bands while adults will form groups and

small swarms that are likely to migrate mainly towards the north and northwest while a few could move south towards cropping areas. Surveys should resume in all areas.

Chad

• SITUATION

During September, first generation solitary hopper of all instars and adults continued to mature mainly between Arada (1501N/2040E) and Fada (1714N/2132E) in Biltine and eastern BET and, to a lesser extent in northeast Kanem, northwest Batha and southern BET from Salal (1448N/1712E) to north of Beurkia (1523N/1800E). Locals reported seeing small mature swarms northeast of Beurkia near Kouba Oulanga (1545N/1818E) and north of Fada on the southwestern edge of the Mourdi Depression during the first week. At the same time, a second generation of breeding commenced and solitary adults and groups of *transiens* adults laid eggs that started hatching by the 20th. From mid-month onwards, there were an increasing number of small hopper bands, at densities up to nearly 200 hoppers/m², seen in the Fada area.

• FORECAST

A second generation of breeding will continue in BET, Biltine, Kanem and Batha, causing locust numbers to increase. Hoppers will be present during October with fledging likely to commence after mid-month and continue into November. As vegetation dries out, hoppers will concentrate and form small groups and bands while adults will form groups and small swarms that are likely to migrate towards the northwest.

Senegal

• SITUATION

Isolated mature solitary adults were seen in the north between Richard Toll (1626N/1541W) and Dagana (1631N/1530W) on 14-18 September.

• 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.



No. 408



No. 408

DESERT LOCUST BULLETIN

Algeria

• SITUATION

During September, immature solitary adults were seen in the extreme south near the Mali border and Timeiaouine (2026N/0148E), while both immature and mature adults were present near the Niger border and In Guezzam (1937N/0552E).

• FORECAST

From late October onwards, small groups of adults and swarms are likely to arrive in the southern and central Sahara from current infestations in the northern Sahel. There is a low to moderate risk that some adults could reach areas of recent rainfall in the west of the country.

Morocco

• SITUATION

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

• FORECAST

From late October onwards, there is a low to moderate risk that small groups of adults and swarms could arrive in areas of recent rainfall in the Western Sahara from current infestations in the northern Sahel. If more rains fall, the adults will eventually mature and breed.

Libya

• SITUATION

No surveys were carried out and no locusts were reported in September.

• FORECAST

From late October onwards, small groups of adults and swarms are likely to arrive in the southwest and perhaps in central areas from current infestations in the northern Sahel.

Tunisia

• SITUATION

No surveys were carried out and no locusts were reported in September.

• FORECAST

No significant developments are likely.

CENTRAL REGION

Sudan

• SITUATION

During September, scattered mature solitary

adults were present in Northern Kordofan between Hamrat Esh Sheikh (1438N/2756E) and Umm Saiyala (1426N/3112E), in Khartoum State, along the Nile River near Atbara (1742N/3400E), Abu Hamed (1932N/3320E), Merowe (1830N/3149E) and Dongola (1910N/3027E) in River Nile and Northern States. Small-scale breeding was detected along the Atbara River in Kassala State and in Red Sea State on the western side of the Red Sea Hills near Derudeb (1731N/3607E) and Haiya (1820N/3621E). At the end of the month, hoppers and mature adults formed small groups in Wadi Muqaddam area about 75 km northwest of Khartoum, and adults were laying eggs. One small mature swarm was seen nearby in Qoz Abu Dulu. Control teams treated 41 ha.

• FORECAST

Small-scale breeding will cause locust numbers to increase in parts of West and North Darfur, Northern Kordofan, River Nile, Northern and Kassala states. Fledging will occur from mid-October onwards. As vegetation dries out, hoppers and adults are likely to form small groups.

Eritrea

• SITUATION

No reports were received during September.

• FORECAST

Small-scale breeding is expected to occur in the western lowlands, causing locust numbers to increase slightly. Surveys should be carried out to monitor the situation.

Ethiopia

• SITUATION

During September, no locusts were seen during surveys carried out in the east near Dire Dawa (0935N/4150E) and in the north.

• FORECAST

No significant developments are likely.

Djibouti

• SITUATION

No reports were received during September.

• FORECAST

No significant developments are likely.

Somalia

• SITUATION

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

• FORECAST

No significant developments are likely.

Egypt

• SITUATION

During September, no locusts were seen during

surveys on the Red Sea coast near Shalaty (2308N/3535E) and Abu Ramad (2224N/3624E).

- **FORECAST**

No significant developments are likely.

Saudi Arabia

- **SITUATION**

During September, a few immature solitary adults were seen in the interior on a farm near Sulayel (2027N/4534E) on the southwestern edge of the Empty Quarter. No locusts were seen during surveys carried out in the Asir Mountains near Al Barzah (2157N/3942E) and Khamis Mushait (1819N/4245E), and in the interior north of Riyadh (2439N/4646E).

- **FORECAST**

No significant developments are likely.

Yemen

- **SITUATION**

No surveys were carried out and no locusts were reported in September.

- **FORECAST**

Low numbers of adults are likely to be present in a few places along the Tihama where they could breed on a small scale in areas of recent rainfall.

Oman

- **SITUATION**

During September, no locusts were seen during surveys carried out in the southern region of Dhofar north of Thumrait (1736N/5401E), in the northern interior of Dakhliya between Adam (2223N/5731E) and Nizwa (2255N/5731E) and on the Musandam Peninsula.

- **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 reports were received during September.

- **FORECAST**

No significant developments are likely.

Pakistan

- **SITUATION**

During September, low numbers of mature solitary adults were present along the Indian border in Khairpur Desert east of Rohri (2739N/6857E) and in Cholistan south of Rahimyar Khan (2822N/7020E)

and Bahawalpur (2924N/7147E). Isolated immature solitary adults were reported west of Karachi near Uthal (2548N/6637E). No locusts were seen in Tharparkar.

- **FORECAST**

Locust numbers will decline in Cholistan and Khairpur as vegetation dries out. No significant developments are likely.

India

- **SITUATION**

A fourth instar hopper and isolated mature solitary adults were present at one place northwest of Bikaner (2801N/7322E) near the Pakistani border on 17-19 September.

- **FORECAST**

Locust numbers will decline in Rajasthan as vegetation dries out. No significant developments are likely.

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



No. 408

DESERT LOCUST BULLETIN



No. 408

DESERT LOCUST BULLETIN

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 (eclo@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.

Locust tools and resources. FAO has developed a number of tools that National locust information officers and other interested individuals can use for Desert Locust early warning and management:

- **MODIS.** Vegetation imagery every 16 days (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/.Regional/.MODIS/index.html)
- **MODIS.** Daily rainfall imagery in real time (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/index.html)
- **RFE.** Rainfall estimates every day, decade and month (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/index.html)
- **Greenness maps.** Dynamic maps of green vegetation evolution every decade (<http://www.devocast.eu/user/images/dl/Form.do>)
- **FAODLIS Google site.** A platform for sharing problems, solutions, tips and files for eLocust2, eLocust2Mapper, RAMSES and remote sensing (<https://sites.google.com/site/faodlis>)
- **FAOLOLUST Twitter.** The very latest updates are posted on Twitter (<http://www.twitter.com/faolocust>)
- **FAOLocust Facebook.** A social means of information exchange using Facebook (<http://www.facebook.com/faolocust>)
- **Slideshare.** Locust presentations and photos available for viewing and download (<http://www.slideshare.net/faolocust>)
- **eLERT.** A dynamic and interactive online database of resources for locust emergencies (<http://sites.google.com/site/elertsite>)

SWAC website. The FAO Commission for Controlling the Desert Locust in South-West Asia (SWAC) website (<http://www.fao.org/ag/locusts/SWAC>) is now available in French.

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

- **Desert Locust situation updates.** Archives Section – Briefs
- **Sahel Crises.** Information Section

Sahel locust threat. An updated information package explains the current threat to the Sahel in West Africa by Desert Locust. It is available at: <http://www.fao.org/ag/locusts/en/info/2002/index.html>.

2012 events. The following activities are scheduled or planned:

- **Sahel Crises.** Informal Donors Meeting, Rome (5 October)
- **CRC.** 28th Session, Jeddah, Saudi Arabia (24-28 November)
- **SWAC.** 28th Session, New Delhi, India (5-7 December)

Peter Haskell. It is with deep regret that we announce the death of Peter Haskell on 26 September 2012. In 1959, he became Deputy Director of the Anti-Locust Research Center (ALRC) in the UK (upon the retirement of Boris Uvarov) and Director in 1962. He oversaw the development of the Centre for Overseas Pest Research (COPR) from 1971 until he retired in 1983. We would like to express our sincere condolences to his family and government.

Myriam Mohamed Cherif. It is with deep regret that we announce the death of Myriam Mohamed Cherif on 24 September 2012. Myriam worked with great dedication and enthusiasm for two FAO regional locust commissions, 17 years in CLCPANO and 10 years in CLCPRO. In 2011, the Director-General of FAO presented her with a medal for 25 years of service to the Organization. We would like to express our sincere condolences to her family and government.



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.

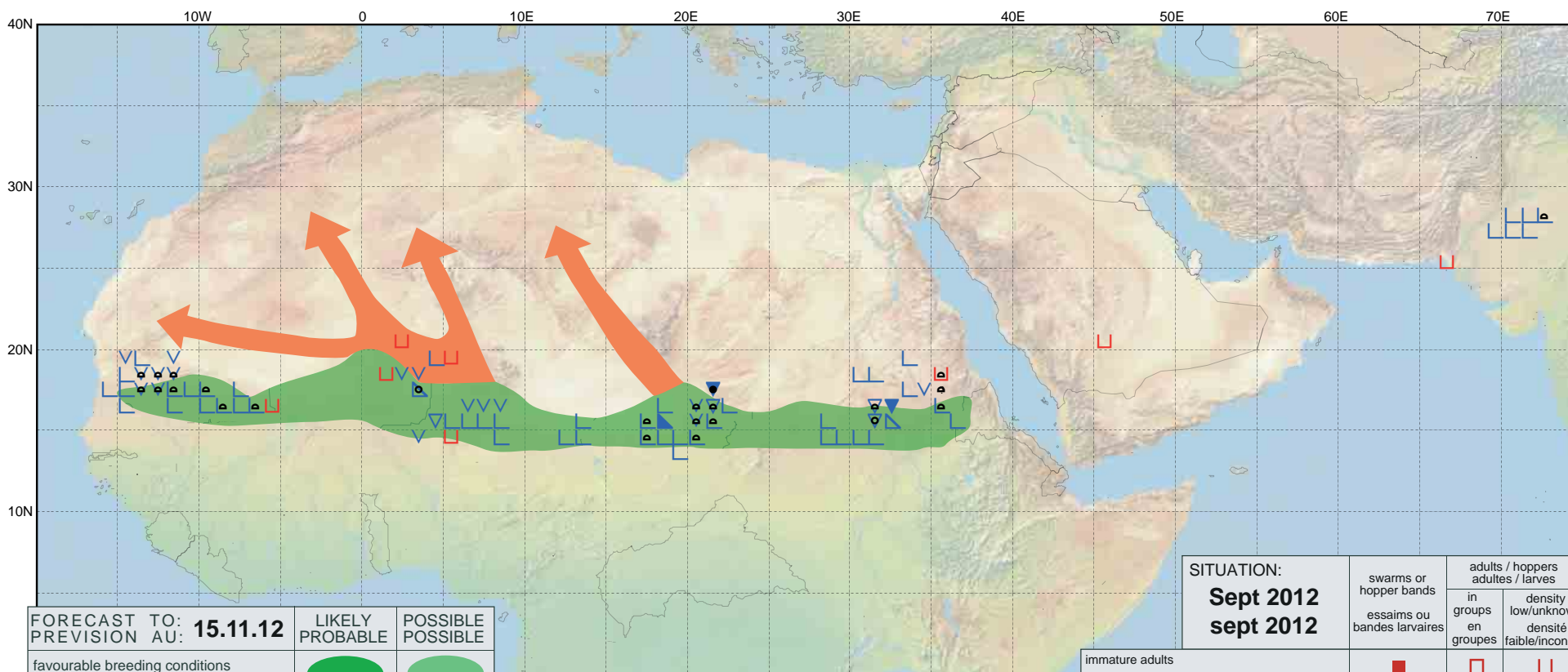


No. 408



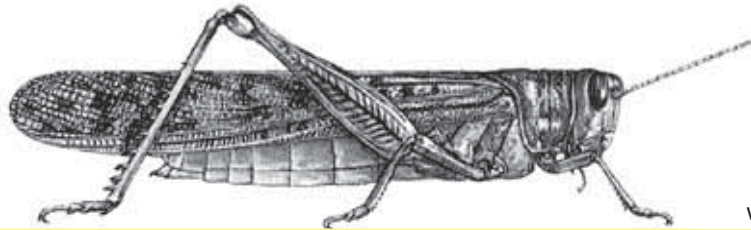
Desert Locust Summary

Criquet pèlerin - Situation résumée



FORECAST TO: PREVISION AU:	LIKELY PROBABLE	POSSIBLE POSSIBLE
15.11.12		
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: Sept 2012 sept 2012	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)			



warning level: **THREAT**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 409



**General Situation during October 2012
Forecast until mid-December 2012**

(5 Nov 2012)

The Desert Locust situation remained serious during October as second-generation hoppers formed bands in Niger and Chad, and adults formed small swarms in Chad. A similar situation is likely in northern Mali but could not be confirmed due to insecurity. Although control operations undertaken in Niger and Chad have reduced locust numbers, there remains a high risk that additional adult groups and small swarms will form in November and migrate to Northwest Africa and northwest Mauritania. A decline in swarm reports in Chad at the end of October suggests that migration may have already commenced in a few places. Local breeding caused locust numbers to increase in western Mauritania where small groups of hoppers and adults were treated. In the Central Region, control operations were carried out against hopper bands in central Sudan. Winter breeding is expected to commence on a limited scale along both sides of the Red Sea during the forecast period.

Western Region. A second generation of breeding continued during October in northern Niger and Chad, causing locust numbers to increase further in both countries. National teams treated nearly 1,800 ha of hopper bands and swarms in Chad, and more than 7,500 ha of hopper bands and groups of hoppers and adults in Niger. The locust situation in northern Mali is probably similar to that in Niger and Chad but it remains unclear because survey and control teams

cannot access the area due to insecurity. During November, more adult groups and small swarms are expected to form in the three countries and migrate northwards to Libya and Algeria, as well as west towards northwest Mauritania where small-scale breeding is already in progress and nearly 3,000 ha of hopper and adult groups were treated in October. There is a moderate risk that some locusts could reach the Western Sahara where local breeding is underway and western Algeria. Elsewhere, low numbers of adults were present in central, southern and southeastern Algeria and in northeast Morocco.

Central Region. Small-scale breeding continued during October in the interior of Sudan where control operations were carried out against small hopper bands and groups of hoppers and adults. Low numbers of adults moved from the summer breeding areas in Sudan to the winter breeding areas in the northeast and along the Red Sea coast of the country. Isolated adults were present in southern Egypt and on the Red Sea coast of Yemen. During the forecast period, small-scale breeding will commence on the coastal plains along both sides of the Red Sea, primarily in Sudan and, to a lesser extent, in Egypt, Eritrea, Saudi Arabia and Yemen in those areas that receive rainfall. No locusts were reported elsewhere in the region.

Eastern Region. Low numbers of solitary adults persisted along the Indian border in Pakistan and in a few places in Rajasthan, India during October. No significant developments are likely.

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 are available on the Internet.

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No. 409

DESERT LOCUST BULLETIN



Weather & Ecological Conditions in October 2012

Although seasonal rains ended and vegetation started to dry out in the Sahel of West Africa and Sudan, ecological conditions remained favourable in many areas during October.

In the **Western Region**, the Inter-Tropical Convergence Zone (ITCZ) continued its southern retreat during October, reaching about 15N over Mauritania and Mali, and 13N over Niger and Chad by the end of the month. Consequently, only light shower fell in a few places of the summer breeding areas during the first two decades of the month, mainly in southeastern Mauritania between Aioun El Atrous and Nema, in northeast Mali between Gao, Menaka and Tin Essako, in northern Niger on the Tazerzait Plateau and the northern Tamesna Plains, and in southern Algeria along the border with Mali near Bir Bou Mokhtar. Ecological conditions remained favourable for breeding in northern Mali, Niger and Chad but annual vegetation started to dry out in many places as the month progressed. No rain fell in the last decade but vegetation was still green in parts of southeastern Mauritania east of Nema, in the Adrar des Iforas in northern Mali and adjacent areas in southern Algeria, on the Tamesna Plains in Mali and Niger, in the Air Mountains in Niger, and near Fada in northeastern Chad. Breeding conditions improved in central and northwest Mauritania between Tidjikja and Akjoujt and in the Western Sahara.

In the **Central Region**, the ITCZ continued to move south over the summer breeding areas in the interior of Sudan during October. By the end of the month it had reached South Darfur and Southern Kordofan. Light rain fell early in the month in West Darfur and in central areas between Umm Saiyala, Ed Dueim, Khartoum and the Atbara River. Vegetation was drying out in most places except for northwest of Khartoum. In the winter breeding areas, vegetation was becoming green in the Tokar Delta, Sudan and near Jizan, Saudi Arabia but remained dry elsewhere along both sides of the Red Sea. In the Horn of Africa, heavy rains fell at the end of the month on the northwest coast of Somalia between Berbera and Lughaye.

Good rains also fell in the Ogaden of eastern Ethiopia between Warder and the Somali border.

In the **Eastern Region**, no significant rain fell in the summer breeding areas along both sides of the Indo-Pakistan during October. Light showers fell during the second decade of the month in the spring breeding areas of Baluchistan in western Pakistan between Turbat and Panjgur, extending to the Zaboli Valley in southeast Iran. Nevertheless, ecological conditions remained unfavourable for breeding.



Area Treated

Chad	1,777 ha (October)
Mauritania	2,905 ha (5-24 October)
Niger	7,574 ha (October)
Sudan	1,804 ha (1-21 October)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

During October, locust numbers declined in the south and southeast as breeding ended in most areas except near Oualata (1717N/0701W) and Tamchekket (1714N/1040W) where hoppers and adults formed small groups, and as adults moved to the centre and northwest. Consequently, locust numbers increased in Tagant, northern Brakna, Trarza, southwest Adrar and southern Inchiri where small-scale breeding was underway and solitary hoppers of all instars were present and forming groups in a few places. Mature adults also formed small groups and were laying eggs near Tidjikja (1833N/1126W), south of Akjoujt (1945N/1421W) in the northern Aouker, and on the coast south of Nouakchott (1809N/1558W). Ground teams treated 2,905 ha from 5 to 24 October.

• FORECAST

Small-scale breeding will cause locust numbers to continue to increase in Trarza, northern Brakna, western Tagant, Inchiri, Dakhlet Nouadhibou and southwest Adrar. Small groups of hoppers and adults may form in some areas. Infestations could also extend further north in Inchiri and Tiris-Zemmour. There is a high risk of small groups and swarms arriving in these areas from the northern Sahel during November.

Mali

• SITUATION

During October, no locusts were seen during surveys in western and central areas between Kayes (1426N/1128W) and Mopti (1430N/0415W), except for isolated immature solitary adults near Mopti. The situation in the north remains unclear because surveys could not be carried out due to insecurity.

• FORECAST

Groups of adults and small swarms are likely to form in the Adrar des Iforas and Tamesna during November as vegetation continues to dry out. Most of the adults are expected to migrate to the northwest, north and northeast while a few residual populations could persist in those areas that remain green in the northeast.

Niger

• SITUATION

A second generation of egg-laying and hatching occurred during October in the Air Mountains, the Tamesna Plains and, to a lesser extent, north of Tahoua (1457N/0519E), in the pasture areas between Tanout (1458N/0852E) and Agadez (1700N/0756E), in the southern Ténéré near Fachi (1806N/1134E), and in the southeast near Ngourti (1519N/1312E) and the Chad border. This caused locust numbers to increase and, as vegetation dried out, hoppers and adults formed small groups. A few hopper bands formed near Tanout and Arlit (1843N/0721E), and in the western Air Mountains. Ground teams treated 7,574 ha during October.

• FORECAST

Groups of adults and small swarms are likely to form during November in Tamesna, the Air Mountains and, to a lesser extent, near Tahoua and Tanout as vegetation continues to dry out. Most of the adults are expected to migrate to the northwest, north and northeast while a few residual populations could persist in those areas that remain green in Tamesna and Air.

Chad

• SITUATION

During October, second-generation hoppers and adults formed groups, hopper bands and immature swarms in southern BET and northeast Kanem near Beurkia (1523N/1800E) and in northeastern BET near Fada (1714N/2132E). Hopper band densities reached 150 hoppers/m² and swarms up to 9 km² in size were reported. Some of the swarms near Fada were maturing after mid-month and, by the end of the month, fewer and fewer swarms were reported, perhaps indicating that migration had commenced. Ground teams treated 1,777 ha during October.

No locusts were seen in Kanem southeast of Mao (1406N/1511E).

• FORECAST

Locust infestations will decline as vegetation dries out and adults form small groups and swarms that will migrate towards the northwest in the coming weeks. Thereafter, only a few residual populations may persist in those areas that remain green in the northeast.

Senegal

• SITUATION

No surveys were carried out and no locusts were reported in 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, scattered immature and mature solitary adults were present in the extreme south near the Mali border and Timeiaouine (2026N/0148E), in the central Sahara between In Salah (2712N/0229E) and Adrar (2753N/0017W), and south of the Tassili Ajjer Mountains near Djanet (2434N/0930E) in the southeast.

• FORECAST

During November, groups of adults and small swarms are likely to arrive in the southern and central Sahara from current infestations in the northern Sahel. There is a moderate risk that some adults could reach areas of recent rainfall in the west of the country.

Morocco

• SITUATION

During October, scattered immature and mature solitary adults were present in southern and central Western Sahara from Bir Gandouz (2136N/1628W) and Tichla (2137N/1453W) to Bir Anzarane (2353N/1431W), as well as in the northeast near Haouza (2707N/1112W). Small-scale breeding occurred in the south and near Guelta Zemmur (2508N/1222W) where late instar hoppers were present. Isolated immature and mature solitary



No. 409



No. 409

DESERT LOCUST BULLETIN

adults were present south of the Atlas Mountains in the northeast near the Algerian border between Figuig (3207N/0113W) and Erfoud (3128N/0410W).

- **FORECAST**

During November, there is a moderate risk that groups of adults and small swarms could arrive in areas of earlier rainfall in the Western Sahara from current infestations in the northern Sahel. If more rains fall, the adults will mature and breed.

Libya

- **SITUATION**

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

- **FORECAST**

During November, groups of adults and small swarms are likely to arrive in the southwest and perhaps in central areas from current infestations in the northern Sahel.

Tunisia

- **SITUATION**

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

- **FORECAST**

No significant developments are likely.

CENTRAL REGION

Sudan

- **SITUATION**

During October, small-scale breeding was detected in Northern Kordofan near Abu Uruq (1554N/3027E) where hoppers and adults were forming groups, and in the Baiyuda Desert northwest of Shendi (1641N/3322E). Breeding continued northwest of Khartoum near Wadi Muqaddam where groups of adults were laying eggs and hoppers were forming small groups and bands. Control teams treated 1,804 ha from 1 to 21 October. Scattered mature solitary adults persisted in Northern Kordofan near Sodiri (1423N/2906E) and Umm Saiyala (1426N/3112E) and in the Northern State near Dongola (1910N/3027E). From mid-month onwards, an increasing number of mature solitary adults appeared on the western side of the Red Sea Hills near Haiya (1820N/3621E) as well as in the winter breeding areas in the northeast near Tomala (2002N/3551E) and Wadi Oko, and in the Tokar Delta on the Red Sea coast.

- **FORECAST**

Small groups of adults are likely to form in parts of the summer breeding area and move to the winter breeding areas in the northeast and along the Red Sea coast. Upon arrival, the adults will mature and lay eggs in those areas that receive rainfall. Consequently, small-scale hatching is expected to cause locust numbers to increase slightly in the winter breeding areas during the forecast period.

Eritrea

- **SITUATION**

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

- **FORECAST**

Low numbers of solitary adults may appear in the winter breeding areas along the central and northern Red Sea coast. Small-scale breeding will occur in those areas that receive rainfall during the forecast period.

Ethiopia

- **SITUATION**

During October, no locusts were seen during surveys carried out between Dire Dawa (0935N/4150E) and Djibouti.

- **FORECAST**

No significant developments are likely.

Djibouti

- **SITUATION**

No reports were received during October.

- **FORECAST**

No significant developments are likely.

Somalia

- **SITUATION**

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

- **FORECAST**

Isolated adults may appear in areas of recent rainfall on the northwest coast and eventually breed on a small scale if more rains occur.

Egypt

- **SITUATION**

During October, scattered immature solitary adults were seen near Tushka (2247N/3126E) and Abu Simbel (2219N/3138E). No locusts were seen during surveys on the northwest coast of the Mediterranean near Salum (3131N/2509E) or on the Red Sea coast between Shalatyn (2308N/3535E) and the Sudanese border.

- **FORECAST**

Low numbers of adults may appear in the winter breeding areas on the Red Sea coast between

Shalatyn and the Sudanese border and breed on a small scale if rainfall occurs.

Saudi Arabia

• SITUATION

No locusts were seen in October during surveys undertaken on the northern Red Sea coast near Yenbo (2405N/3802E).

• FORECAST

Low numbers of adults may appear in the winter breeding areas on the Red Sea coast and breed on a small scale if rainfall occurs.

Yemen

• SITUATION

During October, an isolated mature adult was seen on the central Red Sea coast near Al Qutai (1454N/4312E). No locusts were seen on the northern coast between Al Zuhrah (1541N/4300E) and Suq Abs (1600N/4312E).

• FORECAST

Low numbers of adults may appear in the winter breeding areas on the Red Sea coast and breed on a small scale if rainfall occurs.

Oman

• SITUATION

During October, no locusts were seen during surveys carried out in the north near Nizwa (2255N/5731E) and on the Musandam Peninsula.

• 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 during surveys on the southeastern coastal plains between Jask (2540N/5746E) and the Pakistani border, and in the southwestern part of the Jaz Murian Basin in the interior during October.

• FORECAST

No significant developments are likely.

Pakistan

• SITUATION

During October, isolated mature adults persisted along the Indian border in the Khairpur and Cholistan deserts from east of Rohri (2739N/6857E) to southeast of Bahawalpur (2924N/7147E). No locusts

were seen in Tharparkar. A few adults were also present west of Karachi near Uthal (2548N/6637E).

• FORECAST

Locust numbers will decline in Cholistan and Khairpur as vegetation dries out. No significant developments are likely.

India

• SITUATION

During the first fortnight of October, mature solitary adults were seen at three places near the Rajasthan Canal and the Pakistani border. Copulating adults were seen at one of these places.

No reports or data were received for the second fortnight of October.

• FORECAST

Locust numbers will decline in Rajasthan as vegetation dries out. No significant developments are likely.

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



No. 409

DESERT LOCUST BULLETIN



No. 409

DESERT LOCUST BULLETIN

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 (eclo@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.

Locust tools and resources. FAO has developed a number of tools that National locust information officers and other interested individuals can use for Desert Locust early warning and management:

- **MODIS.** Vegetation imagery every 16 days (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/.Regional/.MODIS/index.html)
- **MODIS.** Daily rainfall imagery in real time (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/index.html)
- **RFE.** Rainfall estimates every day, decade and month (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/index.html)
- **Greenness maps.** Dynamic maps of green vegetation evolution every decade (<http://www.devocast.eu/user/images/dl/Form.do>)
- **FAODLIS Google site.** A platform for sharing problems, solutions, tips and files for eLocust2, eLocust2Mapper, RAMSES and remote sensing (<https://sites.google.com/site/faodlis>)
- **FAOLOLUST Twitter.** The very latest updates are posted on Twitter (<http://www.twitter.com/faolocust>)
- **FAOLocust Facebook.** A social means of information exchange using Facebook (<http://www.facebook.com/faolocust>)
- **Slideshare.** Locust presentations and photos available for viewing and download (<http://www.slideshare.net/faolocust>)
- **eLERT.** A dynamic and interactive online database of resources for locust emergencies (<http://sites.google.com/site/elertsite>)

SWAC website. The FAO Commission for Controlling the Desert Locust in South-West Asia (SWAC) website (<http://www.fao.org/ag/locusts/SWAC>) is now available in French.

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

- **Desert Locust situation updates.** Archives Section – Briefs
- **Sahel crisis.** Information Section
- **Photos of Sahel crisis.** Archives Section – Outbreaks

Sahel locust threat. An updated information package explains the current threat to the Sahel in West Africa by Desert Locust. It is available at: <http://www.fao.org/ag/locusts/en/info/2002/index.html>.

2012-13 events. The following activities are scheduled or planned:

- **CRC.** 28th Session, Jeddah, Saudi Arabia (24-28 November)
- **SWAC.** 28th Session, New Delhi, India (5-7 December)
- **EMPRES/WR.** 11th Liaison Officer Meeting, Dakar, Senegal (21-25 January)
- **EMPRES/WR.** 8th Steering Committee Meeting, Dakar, Senegal (28-29 January)



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.



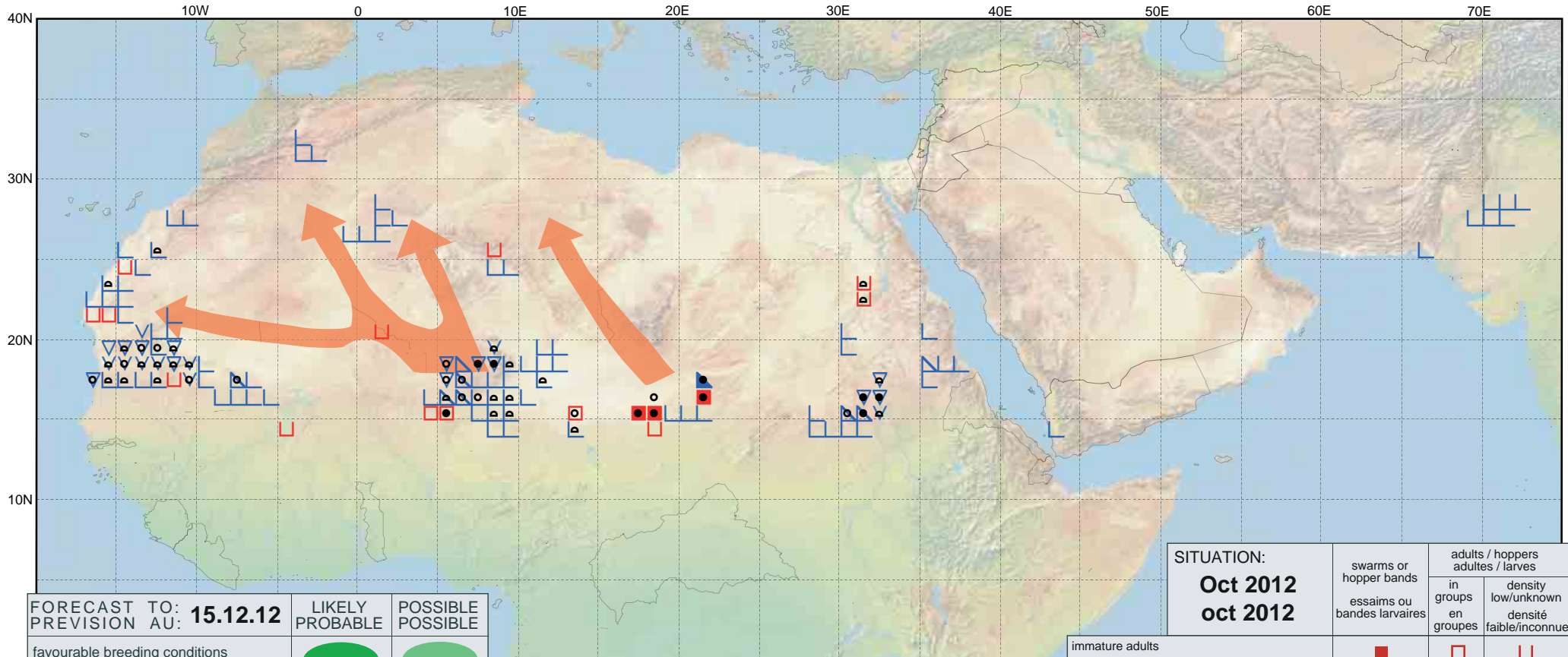
No. 409



Desert Locust Summary

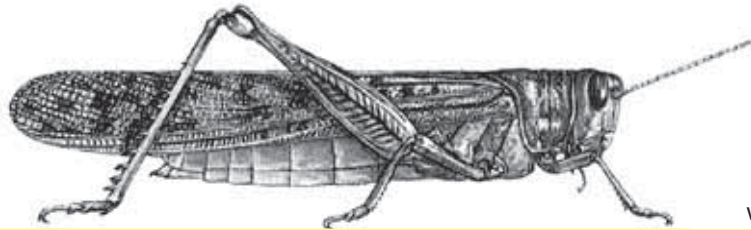
Criquet pèlerin - Situation résumée

409



FORECAST TO: PREVISION AU: 15.12.12	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 2012 oct 2012	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 hoppers			
larvae larves			
hoppers & adults (combined symbol example) larves et adultes (exemple symboles combinés)			



warning level: **THREAT**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 410



**General Situation during November 2012
Forecast until mid-January 2013**

(3 Dec 2012)

The Desert Locust situation remained serious during November as small swarms formed in Mali, Niger, and Chad, and adult groups moved north to Libya, Tunisia and Algeria. An increasing number of adults were seen in Morocco and the Western Sahara. Locusts formed groups and small hopper bands in western Mauritania. More groups and small swarms are likely to form in the Sahel during December and move to Northwest Africa and northwest Mauritania. In the Central Region, groups and swarms formed in northern Sudan and moved to Egypt and the Red Sea coast where winter breeding will occur during the forecast period. One group crossed the sea to the Saudi Arabian coast. Aerial control operations commenced in Algeria, Niger and Sudan. Ground control operations were also undertaken in Mauritania, Libya, Chad and Egypt. All efforts are required to monitor the situation and undertake the necessary control operations.

Western Region. Second generation breeding continued to cause locust numbers to increase in the northern Sahel of Mali, Niger and Chad during November. As vegetation dried out, hoppers and adults formed groups and a few hopper bands and small swarms. Small adult groups moved north into southeastern and western Libya, southern Tunisia, and Algeria. In Mauritania, locust infestations increased in the west and northwest due to breeding and the arrival of adults from the summer breeding

areas in the south, causing hopper and adult groups to form as well as a few hopper bands. Aerial control operations commenced in Niger and Algeria, supplementing ground efforts. Ground control was also carried out in Chad and Mauritania. During the forecast period, more groups and swarms will form in the northern Sahel and move into Northwest Africa where breeding could occur if temperatures remain warm. Breeding will continue in northwest Mauritania, causing locusts to increase further.

Central Region. Hopper and adult groups, bands and swarms continued to form during November in the summer breeding areas in the interior of Sudan. Although ground and aerial control operations were undertaken, groups of adults moved north to southern Egypt while other groups and small swarms migrated to the winter breeding areas in northeast Sudan and on the Red Sea coast in southeast Egypt. At least one group crossed the Red Sea to the northern coastal plains in Saudi Arabia. During the forecast period, small to moderate scale breeding will cause locust numbers to increase along both sides of the Red Sea as hatching commences in December.

Eastern Region. Isolated adults persisted in a few places of the summer breeding areas in Rajasthan, India near the border with Pakistan. No significant developments are likely.

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 are available on the Internet.

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No. 410

DESERT LOCUST BULLETIN



Weather & Ecological Conditions in November 2012

Good rains fell in parts of the winter breeding areas along both sides of the Red Sea and in some places in Northwest Africa. Consequently, ecological conditions started to become favourable for breeding in both areas.

In the **Western Region**, light showers fell in parts of Northwest Africa while vegetation dried out in the summer breeding areas of the Sahel in West Africa. Light rain occurred in northeastern Morocco and parts of the northern Western Sahara. Vegetation was green and ecological conditions were favourable for breeding in the southern part of the Western Sahara and along the southern side of the Atlas Mountains, including Oued Draa, the Ziz-Ghris Valley and the northeast near Bouarfa. In Algeria, light to moderate rains fell in the Sahara near Tindouf, Bechar, and north of Illizi and Tamanrasset. Consequently, limited areas of green vegetation were present in parts of the southern and central Sahara in Algeria. In Libya, rains fell at the end of the month in the west and south. In Mauritania, ecological conditions were favourable for breeding in the northwest while conditions were drying out in centre, and dry in the southeast. In Mali, vegetation was drying out but remained green in the main wadis of the Adrar des Iforas and in a few places on the Tamesna Plains. In Niger, vegetation was drying out in all areas except in interdunal areas in the Tamesna and in parts of the Air Mountains and the Ténéré Desert. In Chad, annual vegetation was drying out in most areas and only small patches of green vegetation were present in the north.

In the **Central Region**, good rains fell in some of the winter breeding areas along the Red Sea coast in November. Light to moderate rains fell during the second week on the Red Sea coast and subcoastal areas in southeast Egypt and northeast Sudan. Moderate to heavy showers fell on the northern Red Sea coast of Saudi Arabia between Rabigh and Duba at times during the first two decades of the month. As a result, breeding conditions were improving along the coast as well as in subcoastal areas of northeast Sudan and southeast Egypt along Wadi Oko/Diib. Although vegetation dried out in most of the summer

breeding areas in the interior of Sudan, sufficiently green patches allowed locusts to concentration in some places. Elsewhere, conditions were mainly dry and unfavourable for breeding.

In the **Eastern Region**, no significant rain fell during November. Consequently, vegetation continued to dry out in the summer breeding areas along both sides of the Indo-Pakistan, and remained dry in most of the spring breeding areas in western Pakistan and southeast Iran.



Area Treated

Algeria	1,110 ha (November)
Chad	227 ha (November)
Egypt	2,866 ha (November)
Libya	74 ha (November)
Mauritania	4,725 ha (October, revised) 14,663 ha (1-26 November)
Niger	42,819 ha (November)
Sudan	2,024 ha (October, revised) 26,289 ha (3-28 November)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

During November, late instar hopper and immature solitary adult infestations gradually declined in the summer breeding areas of northern Hodh El Gharbi and Assaba. In the west and northwest, locust numbers continued to increase in Tagant, Trarza, Inchiri and southwest Adrar where egg-laying and hatching were reported. Solitary and *transiens* hoppers and adults formed many small groups at densities of up to 500 hoppers/m² and 50,000 adults/ha between Nouakchott (1809N/1558W) and Atar (2032N/1308W). A few hopper bands formed after mid-month on the coast south of Nouakchott and in the interior between Tidjikja (1833N/1126W) and Akjoujt (1945N/1421W) at densities of up to 30 hoppers/m². Scattered immature and mature solitary adults were present in Inchiri. There were unconfirmed reports of small swarms in the oases of southern Adrar. Ground teams treated 14,663 ha from 1 to 26 November.

• FORECAST

Small to moderate scale breeding will cause locust numbers to increase further in Trarza, northern

Brakna, western Tagant, Inchiri, Dakhlet Nouadhibou and southwest Adrar. Small groups, bands and swarms may form in some areas. Infestations could also extend further north to Tiris-Zemmour. There is a high risk of small groups and swarms arriving from the northern Sahel during December.

Mali

• SITUATION

During the first two decades of November, many hopper groups and small bands at densities of up to 65 hoppers/m² mixed with immature and mature solitary and *transiens* adult groups at densities up to 15 adults/m² were present in the northeast. A medium density immature swarm was seen flying to the northwest on the 9th and 13th, and another swarm was reported on the 22nd. No locusts were seen during surveys in western and central areas between Kayes (1426N/1128W) and Mopti (1430N/0415W).

• FORECAST

Groups of adults and small swarms will continue to form in the Adrar des Iforas and Tamesna during December. Most of the adults are expected to migrate to the northwest, north and northeast while a few residual populations could persist in those areas that remain green in the northeast.

Niger

• SITUATION

During the first decade of November, additional hatching caused locust numbers to increase further in the Tamesna between In Abangharit (1754N/0559E), Tassara (1650N/0550E) and Agadez (1700N/0756E) and, to a lesser extent, in the Air Mountains, in central areas near Tanout (1458N/0852E), and in the southeast near Ngourti (1519N/1312E) and the Chad border. During the remainder of the month, second generation solitary, *transiens* and gregarious hoppers developed and adults matured, forming an increasing number of groups in all of these areas. Hopper densities reached 50 hoppers/m² while adult densities were up to 20,000 adults/ha. Late instar hopper bands were present near Tahoua (1457N/0519E). A few low-density immature swarms formed at mid-month in the Tamesna. Control operations treated 42,819 ha during November of which 5,500 ha were treated by air during the last decade.

• FORECAST

Groups of adults and small swarms will continue to form during December in Tamesna, the Air Mountains, near Tahoua and, to a lesser extent, near Tanout and perhaps in the southeast. Most of the adults are expected to migrate to the northwest, north and northeast while a few residual populations could

persist in those areas that remain green in Tamesna and Air.

Chad

• SITUATION

During the first half of November, a few low to medium density immature and maturing swarms, up to 10 km² in size, were seen in the northeast near Fada (1714N/2132E). Scattered mature gregarious adults were present south of Fada. During the second half of the month, several maturing swarms and adult groups were reported west of Fada near Faya (1756N/1907E), reaching as far north as Gouro (1932N/1933E). Lower numbers of immature and mature solitary adults were reported in southern BET and northern Batha and Kanem. Ground teams treated 227 ha.

• FORECAST

Locust infestations will decline as vegetation dries out and the remaining adults form small groups and swarms that will migrate towards the northwest in the coming weeks. Thereafter, only a few residual populations may persist in those areas that remain green in the northeast.

Senegal

• SITUATION

No reports were received during November.

• 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

In early November and again later in the month, a few small groups of immature and mature adults at densities of up to 2,500 adults/ha appeared in the extreme south near the Niger border and In Guezzam (1937N/0552E). Concentrations of solitary adults were present near the Malian border and Tin Zaouatene (1957N/0258E) as well as in irrigated areas in the central Sahara south of Adrar (2753N/0017W). Control teams treated 960 ha by ground and 150 ha by air. Scattered immature and



No. 410



No. 410

DESERT LOCUST BULLETIN

mature solitary adults were reported southeast of the Hoggar Mountains near Djanet (2434N/0930E), and isolated adults were seen by locals in the northern Sahara near Bechar (3135N/0217W), Ghardaia (3225N/0337E), El Oued (3323N/0649E) and Ouargla (3157N/0520E).

- **FORECAST**

Low numbers of adults will persist in the southern, central and eastern Sahara, and are likely to be supplemented by groups of adults and small swarms arriving from current infestations in the northern Sahel during December. Small to moderate scale breeding could occur in areas of recent rainfall if temperatures remain warm.

Morocco

- **SITUATION**

During November, scattered immature and mature solitary adults persisted in southern Western Sahara between Bir Gandouz (2136N/1628W) and Tichla (2137N/1453W), in central areas near Guelta Zemmur (2508N/1222W), and in the north near Laayoune (2709N/1311W) and Haouza (2707N/1112W). Small-scale breeding was detected near Guelta Zemmur where isolated solitary hoppers of all instars were present. Scattered immature adults were present in Oued Draa from Tantan (2826N/1106W) to east of Tata (2944N/0758W) while adults persisted and were maturing along the Algerian border between Zagora (3019N/0550W) and Figuig (3207N/0113W) in the northeast.

- **FORECAST**

Small-scale breeding will cause locust numbers to increase in the Western Sahara. There is a moderate risk that a few groups and perhaps small swarms could appear from the northern Sahel. If temperatures remain warm, there is a possibility that small-scale breeding could occur along the southern side of the Atlas Mountains and in Oued Draa; otherwise, adults will persist, perhaps form a few small groups, and slowly mature until spring.

Libya

- **SITUATION**

On 13 November, a group of solitary adults was seen in the northwest near the Algerian and Tunisian borders at Ghadames (3010N/0930E). Scattered adults and groups were subsequently reported to

north, reaching Tiji (3200N/1120E). During the third week, groups of immature solitary and *transiens* adults were seen at a few places in the southeast near Kufra oasis (2411N/2315E) and 74 ha were treated. In the southwest, scattered immature adults were present near Ghat (2459N/1011E) during the third week. There was an unconfirmed report of locusts in the northeast near Al Jaghub (2944N/2431E) and the Egyptian border on 23 November.

- **FORECAST**

During periods of warm southerly winds, a few groups of adults and small swarms are likely to arrive in western and central areas from current infestations in the northern Sahel.

Tunisia

- **SITUATION**

During November, a few isolated solitary adults were reported in the south on the 14th as a result of warm southerly winds. No further locusts were reported during the last decade of the month.

- **FORECAST**

Scattered adults and groups may appear in the south during periods of warm southerly winds.

CENTRAL REGION

Sudan

- **SITUATION**

During November, hopper and adult groups, bands and a few swarms continued to form in the summer breeding areas northwest of Khartoum (1533N/3235E) and in the Baiyuda Desert. Some of these infestations may have formed in insecure areas of Darfur and northwest Kordofan. As vegetation dried out, locust densities increased, reaching 5,000 adults/ha. Many of these populations moved north, reaching Wadi Halfa (2147N/3122E) and the Egyptian border and northeast, reaching the winter breeding areas in Wadi Oko/Diib by mid-month. Scattered mature solitary adults were present along the Atbara River and on the Red Sea coast in the Tokar Delta and Khor Baraka. Control teams treated 26,289 ha on 3-28 November of which 16,800 ha were undertaken by air.

- **FORECAST**

Adult groups and small swarms will form in parts of the summer breeding area and move to the winter breeding areas in the northeast and along the Red Sea coast during December. Small to moderate scale breeding will occur in Wadi Oko/Diib and, to a lesser extent, on the central and southern Red Sea coastal plains where rains fall, causing locust numbers to increase.

Eritrea

- **SITUATION**

No reports were received during November.

- **FORECAST**

Low numbers of solitary adults are likely to appear in the winter breeding areas along the central and northern Red Sea coast and breed on a small scale in areas that receive rainfall or runoff during the forecast period.

Ethiopia

- **SITUATION**

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

- **FORECAST**

No significant developments are likely.

Djibouti

- **SITUATION**

No reports were received during November.

- **FORECAST**

No significant developments are likely.

Somalia

- **SITUATION**

No reports were received during November.

- **FORECAST**

Isolated adults may appear in areas of recent rainfall on the northwest coast and breed on a small scale if more rains occur.

Egypt

- **SITUATION**

During the first half of November, about a dozen groups of medium to high density immature and mature solitary and *transiens* adults appeared in the south near Abu Simbel (2219N/3138E), Lake Nasser and, to a lesser extent, in the Allaqi area. A few adults were seen on the Red Sea coast south of Shalatyn (2308N/3535E). During the second half of the month, immature and mature adult groups moved further north in the Western Desert, reaching Kharga oasis (2525N/3034E). Adult groups and mature swarms arrived on the coast between Berenice (2359N/3524E) and the Sudanese border where copulating was reported. Ground teams treated 2,866 ha in November.

- **FORECAST**

Additional adult groups and small swarms may arrive on the Red Sea coast and in adjacent subcoastal areas between Shalatyn and the Sudanese border during December. Small to moderate scale breeding will cause locust numbers to increase in these areas. Hatching will commence in early December and continue throughout the forecast period. Breeding on a smaller scale may occur in the Allaqi area and near Lake Nasser. During periods of warm southerly winds, a few groups may move northwards in the Western Desert while others may

appear in the northwest from Libya.

Saudi Arabia

- **SITUATION**

On 18 November, a group of mature adults was reported on the northern Red Sea coast near Yenbo (2405N/3802E), which probably crossed the Red Sea from northeast Africa. Scattered immature and mature solitary and *transiens* adults were present on the north coast between Thuwal (2215N/3906E) and Umm Lajj (2501N/3716E).

- **FORECAST**

A few groups and small swarms could arrive on the Red Sea coast from Sudan and concentrate in areas of recent rainfall or move to the central coast. Small-scale breeding will cause locust numbers to increase during the forecast period.

Yemen

- **SITUATION**

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

- **FORECAST**

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

Oman

- **SITUATION**

During November, no locusts were seen during surveys carried out on the Musandam Peninsula, in the northern interior south of Adam (2223N/5731E), and in the south near Salalah (1700N/5405E).

- **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 reports were received during November.

- **FORECAST**

No significant developments are likely.



No. 410

DESERT LOCUST BULLETIN



No. 410

DESERT LOCUST BULLETIN

Pakistan

• SITUATION

No reports were received during November.

• Forecast

Locust numbers will decline in Cholistan and Khairpur as vegetation dries out. No significant developments are likely.

India

• SITUATION

During the second fortnight of October and throughout November, isolated and scattered immature and mature solitary adults persisted near the Rajasthan Canal and the Pakistani border.

• FORECAST

Locust numbers will decline in Rajasthan as vegetation dries out. No significant developments are likely.

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/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.

Locust tools and resources. FAO has developed a number of tools that National locust information officers and other interested individuals can use for Desert Locust early warning and management:

- **MODIS.** Vegetation imagery every 16 days (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/.Regional/.MODIS/index.html)
- **MODIS.** Daily rainfall imagery in real time (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/index.html)
- **RFE.** Rainfall estimates every day, decade and month (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/index.html)
- **Greenness maps.** Dynamic maps of green vegetation evolution every decade (<http://www.devcoast.eu/user/images/dl/Form.do>)
- **FAODLIS Google site.** A platform for sharing problems, solutions, tips and files for eLocust2, eLocust2Mapper, RAMSES and remote sensing (<https://sites.google.com/site/faodlis>)
- **FAOLOLUST Twitter.** The very latest updates are posted on Twitter (<http://www.twitter.com/faolocust>)
- **FAOLocust Facebook.** A social means of information exchange using Facebook (<http://www.facebook.com/faolocust>)
- **Slideshare.** Locust presentations and photos available for viewing and download (<http://www.slideshare.net/faolocust>)
- **eLERT.** A dynamic and interactive online database of resources for locust emergencies (<http://sites.google.com/site/elertsite>)

SWAC website. The FAO Commission for Controlling the Desert Locust in South-West Asia (SWAC) website (<http://www.fao.org/ag/locusts/SWAC>) is now available in French.

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

- **Desert Locust situation updates.** Archives Section – Briefs
- **Sahel crisis.** Information Section
- **Photos of Sahel crisis.** Archives Section – Outbreaks

Sahel locust threat. An updated information package explains the current threat to the Sahel in West Africa by Desert Locust. It is available at: <http://www.fao.org/ag/locusts/en/info/2002/index.html>.

2012-13 events. The following activities are scheduled or planned:

- **SWAC.** 28th Session, New Delhi, India (5-7 December)
- **EMPRES/WR.** 11th Liaison Officer Meeting, Dakar, Senegal (21-25 January)
- **EMPRES/WR.** 8th Steering Committee Meeting, Dakar, Senegal (28-29 January)

Mansour Liravi. It is with deep regret that we announce the death of Mansour Liravi in November. Mansour dedicated more than 30 years to the national locust programme in Iran, and was the Head of the Locust and Migratory Pests Section before his retirement in the mid 1990s. We would like to express our sincere condolences to his family and government.



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.



No. 410

DESERT LOCUST BULLETIN



No. 410

DESERT LOCUST BULLETIN

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

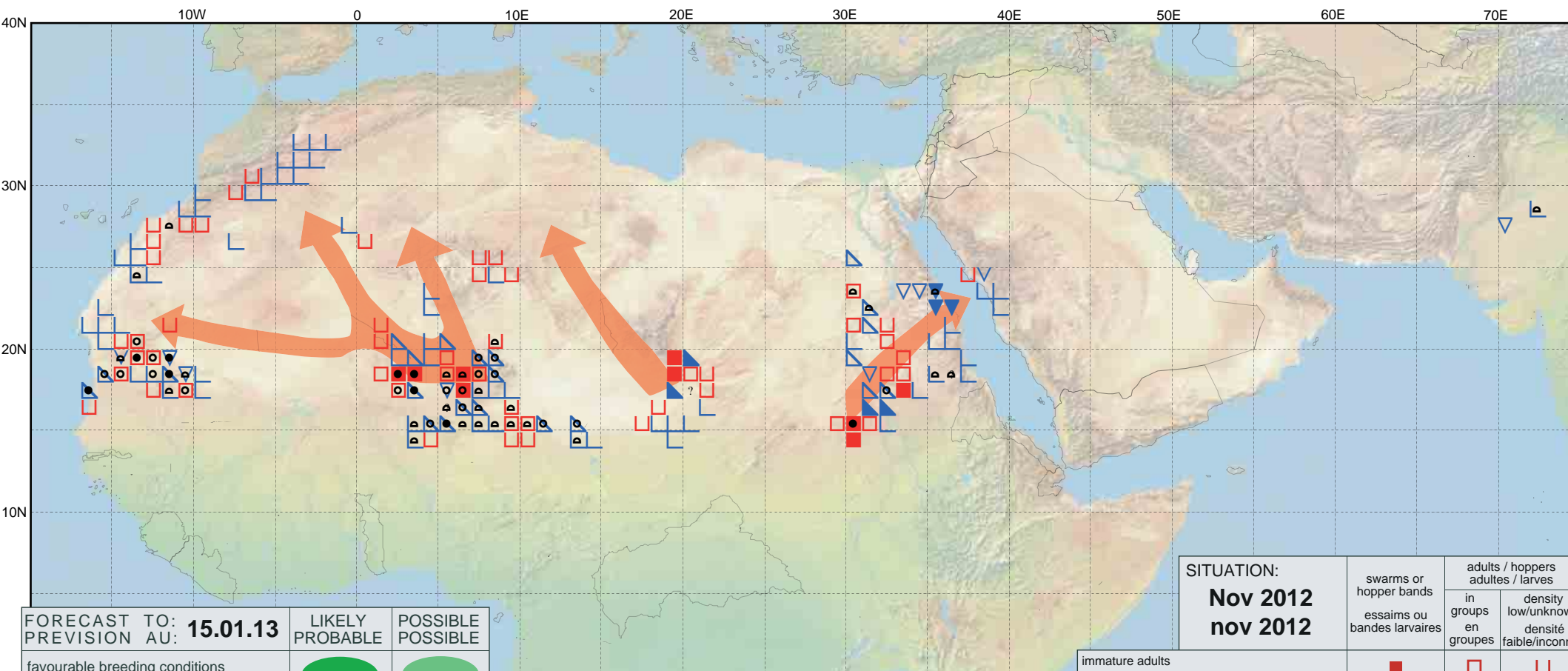
- locust-affected countries in South-West Asia: Afghanistan, India, Iran and Pakistan.



Desert Locust Summary

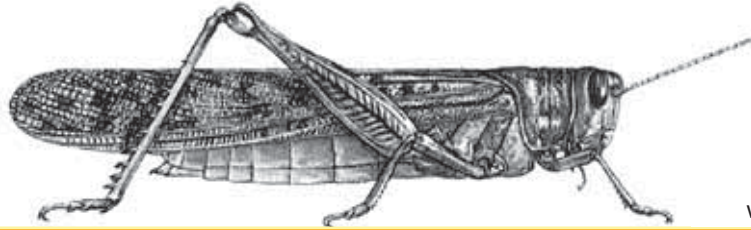
Criquet pèlerin - Situation résumée

410



FORECAST TO: PREVISION AU:	LIKELY PROBABLE	POSSIBLE POSSIBLE
15.01.13 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: Nov 2012 nov 2012	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)				



warning level: **THREAT**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 411



**General Situation during December 2012
Forecast until mid-February 2013**

(4 Jan 2013)

The Desert Locust situation improved in the Sahel of West Africa as locust numbers declined during December due to control operations in Niger and Mauritania and drying conditions. On the other hand, the situation remained serious in winter breeding areas along both sides of the Red Sea where adult groups and small swarms laid eggs, giving rise to hopper bands in Egypt, Sudan and Saudi Arabia. Although control operations were undertaken, more breeding is expected and small hopper bands and swarms are likely to form during the forecast period. In Northwest Africa, small-scale breeding and low temperatures will cause locust numbers to increase slowly in Western Sahara, northwest Mauritania and southern Algeria where small groups and hopper bands may form. All efforts are required to monitor the situation and undertake the necessary control operations.

Western Region. Small groups of hoppers and adults continued to form in early December in Niger and northwest Mauritania but infestations declined during the remainder of the month as a result of control operations and drying vegetation. There was no indication of a large-scale migration from West Africa to Northwest Africa. Instead, a few small groups appeared in southern Algeria and laid eggs, groups of immature and mature adults were present in Western Sahara where small-scale breeding was in progress, and solitary adults were scattered along

the southern side of the Atlas Mountains in Morocco. Control operations were undertaken in Algeria and Morocco. During the forecast period, small-scale breeding will cause locust numbers to increase slightly in the Sahara of Algeria and in Western Sahara but low temperatures will delay locust maturation. Small groups may persist in Mauritania while groups may form in Algeria and small bands could form in Western Sahara.

Central Region. Infestations declined during December in the summer breeding areas in the interior of Sudan as adult groups and swarms appeared on the Red Sea coast in southeast Egypt and northeast Sudan and laid eggs that hatched, causing small hopper bands to form. Breeding also took place in Saudi Arabia where hopper groups and bands formed on the Red Sea coast north of Jeddah. Although control operations were undertaken in the three countries, more breeding is expected during the forecast period that could give rise to hopper bands and swarms. Isolated adults were present on the Red Sea and Gulf of Aden coastal plains in Yemen. If rains fall, small-scale breeding will occur on the Red Sea coast in Eritrea and Yemen.

Eastern Region. No locusts were reported in the region during December. Low numbers of adults may appear at the end of the forecast period in a few areas on the coast of Baluchistan in western Pakistan and southeast Iran. No significant developments are likely.

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 are available on the Internet.

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No. 411

DESERT LOCUST BULLETIN



Weather & Ecological Conditions in December 2012

Although little rain fell during December, ecological conditions were favourable in the winter breeding areas along both sides of the Red Sea in Egypt, Sudan and parts of Saudi Arabia. Conditions were also favourable in parts of Mauritania, Western Sahara and Algeria.

In the **Western Region**, no significant rain fell in the Sahel of West Africa during December except for a few local showers on the eastern side of the Air Mountains in Niger. In Northwest Africa, good rains fell at times during the first decade in western Libya. Consequently, vegetation continued to dry out in the northern Sahel except in northwest and central Mauritania, Western Sahara, and in central and southern Algeria where ecological conditions remained favourable for locust breeding and survival. Temperatures declined in the region, which will delay locust maturation and limit migration.

In the **Central Region**, very little rain fell in the winter breeding areas along both sides of the Red Sea during December except for moderate showers between Qunfidah and Mecca in Saudi Arabia at mid-month and light rains on the coast in Sudan. Nevertheless, ecological conditions were favourable for breeding on the Red Sea coast in southeast Egypt, in coastal and subcoastal areas of northeast Sudan, and on the coast between Rabigh and Umm Lajj in Saudi Arabia from rainfall during November. Breeding conditions were also favourable in the Tokar Delta, Sudan. Elsewhere, dry conditions prevailed in the region.

In the **Eastern Region**, light to moderate rains fell in mid-December along parts of the Baluchistan coast in southeast Iran and western Pakistan. Ecological conditions were improving slightly in the spring breeding areas of Iran but remained mainly dry and unfavourable in Pakistan. Temperatures declined in the interior of both countries.



Area Treated

During December, control operations treated 32,000 ha, compared to 90,000 ha in November.

Algeria	292 ha (December)
Egypt	6,894 ha (December)
Mauritania	16,406 ha (November, revised) 4,922 ha (December)
Morocco	2,582 ha (December)
Niger	42,891 ha (November, revised) 12,875 ha (December)
Saudi Arabia	1,363 ha (December)
Sudan	26,689 ha (November, revised) 5,665 ha (December)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

During December, several dozen groups of hoppers mixed with immature and mature solitarious and *transiens* mature adults continued to be present in Tagant, Trarza, Inchiri and southwest Adrar. Locust densities declined throughout the month from up to 15 hoppers/m² and 40,000 adults/ha during the first week to isolated hoppers and 2,100 adults/ha at the end of the month. Scattered immature and mature solitarious adults appeared in the north near Zouerate (2244N/1221W) and Bir Moghreïn (2510N/1135W). In the south, scattered immature adults persisted north of Aioun El Atrous (1639N/0936W). Ground teams treated 4,922 ha in December.

• FORECAST

Unless further rains fall, breeding and locust numbers will decline in the centre, northwest and the north. Nevertheless, low numbers of locusts will persist and could concentrate in a few areas to form small groups. The risk of adults arriving from the northern Sahel will diminish during the forecast period.

Mali

• SITUATION

Although surveys were not carried out in December, there was an unconfirmed report of mature adults in the central part of the Adrar des Iforas on the 12th.

• FORECAST

Scattered adults and perhaps a few small groups may remain in parts of the Adrar des Iforas and Tamesna. Low temperatures will delay locust maturation and limit migration. Nevertheless, a few

small groups could move northwards during periods of warm southerly winds.

Niger

• SITUATION

During December, solitary and *transiens* hoppers and immature and mature adults continued to form small groups, at up to 20 hoppers/m² and 50,000 adults/ha, in vegetation that remained green in Tamensa, the Air Mountains, and an immature swarm was reported in the southeast near Ngourti (1519N/1312E) and the Chad border. However, locust densities declined throughout the month and, by the end of December, only scattered hoppers and adults up to 2,100 adults/ha were reported. Scattered immature and mature solitary adults were present in the pasture areas between Filingué (1421N/0319E) and Abalak (1522N/0621E). Ground teams treated 12,875 ha in December.

• FORECAST

Locust numbers will continue to decline in Tamesna, the Air Mountains, central areas, and in the southeast. Nevertheless, low numbers of locusts will persist and could form a few small groups in the Air Mountains and, to a lesser extent, in Tamesna. A few small groups could move northwards during periods of warm southerly winds.

Chad

• SITUATION

Locust numbers declined in the north and northeast during December. Scattered mature solitary and gregarious adults persisted between Arada (1501N/2040E), Faya (1756N/1907E), Gouro (1932N/1933E) and Fada (1714N/2132E). No locusts were reported at the end of the month.

• FORECAST

Locust infestations will continue to decline. No significant developments are likely.

Senegal

• SITUATION

No reports were received during December.

• 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 December, locust numbers increased slightly in the central and southern Sahara. Control

teams treated 6 ha of scattered immature and mature solitary adults that were laying eggs near irrigated crops in the Adrar (2753N/0017W) area. In the south, teams treated 286 ha of hopper and egg-laying adult groups near the Niger border southwest of In Guezzam (1937N/0552E) and mature adult groups on the Mali border near Tin Zaouatene (1957N/0258E). Scattered mature adults were present in the southeast near Djanet (2434N/0930E). No locusts were seen in the west near Tindouf (2741N/0811W).

• FORECAST

Small-scale breeding will cause locust numbers to increase slightly in central and southern Sahara but low temperatures will delay locust maturation. During periods of warm southerly winds, there is a moderate risk of a few small groups of adults arriving from infestations that remain in the northern Sahel.

Morocco

• SITUATION

During December, small groups of *transiens* adults, up to 5,000 adults/ha, laid eggs that hatched in the Adrar Settouf area of southern Western Sahara near Ma'Tallah (2223N/1502W) where small groups of hoppers and immature adults were reported. Control teams treated 2,582 ha in December. Scattered solitary hoppers and adults were seen further north near Guelta Zemmur (2508N/1222W), and a few mature solitary adults were present in northeast Western Sahara near Smara (2644N/1140W). Scattered solitary adults persisted and continued to mature south of the Atlas Mountains in Oued Draa from Tan-tan (2826N/1106W) to east of Tata (2944N/0758W) and along the Algerian border between Zagora (3019N/0550W) and Figuig (3207N/0113W) in the northeast.

• FORECAST

Small-scale breeding will cause locust numbers to increase in the Western Sahara where small hopper groups and bands could form, giving rise to adult groups. Low temperatures will delay locust maturation along the southern side of the Atlas Mountains and in Oued Draa. The risk of small groups and swarms arriving from the northern Sahel will decline during the forecast period.



No. 411

DESERT LOCUST BULLETIN



No. 411

DESERT LOCUST BULLETIN

Libya

• SITUATION

During December, scattered immature solitary adults were present in the southwest at the Barjoug Agricultural Project (2601N/1258E) and persisted at several places northwest of Ghat (2459N/1011E).

• FORECAST

Low numbers of adults will slowly mature in the southwest and eventually breed in areas of recent rainfall. During periods of warm southerly winds, a few groups of adults and small swarms could arrive in western and central areas from infestations that remain in the northern Sahel.

Tunisia

• SITUATION

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

• FORECAST

No significant developments are likely.

CENTRAL REGION

Sudan

• SITUATION

By the second week of December, locust numbers had declined in the summer breeding areas of the interior where only 100 ha of immature groups of gregarious adults were treated near Shendi (1641N/3322E). In the winter breeding areas, adult groups and small swarms laid eggs throughout the month in the northeast in Wadi Oko/Diib north of Tomala (2002N/3551E) and on the Red Sea coastal plains north of Mohamed Qol (2054N/3709E) to the Egyptian border. Hatching occurred and early instar hopper bands formed in all areas. Control teams treated 5,565 ha in December. Elsewhere, scattered immature and mature solitary adults were seen along the coast between Port Sudan (1938N/3713E) and Suakin (1906N/3719E), and near Karora (1745N/3820E) and the Eritrean border. Adult groups were laying eggs near Tokar Delta (1827N/3741E).

• FORECAST

Moderate-scale breeding will cause locust numbers to increase on the northern Red Sea coast and in subcoastal areas where hopper bands and small swarms will form. Breeding will also occur along the central and southern coastal plains where small groups could form.

Eritrea

• SITUATION

A late report indicated that no surveys were carried out and no locusts were reported during November. No reports were received in December.

• FORECAST

Scattered adults are likely to appear along the Red Sea coast between the Sudanese border and Massawa, and breed on a small scale in areas that receive rainfall or runoff during the forecast period.

Ethiopia

• SITUATION

No locusts were seen during surveys carried out in the east (Somali region) during December.

• FORECAST

No significant developments are likely.

Djibouti

• SITUATION

No reports were received during December.

• FORECAST

No significant developments are likely.

Somalia

• SITUATION

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

• FORECAST

Isolated adults may appear in areas of recent rainfall on the northwest coast and breed on a small scale if more rains occur.

Egypt

• SITUATION

During the first week of December, groups of immature *transiens* and gregarious adults moved north in the Western Desert, appearing in Dakhla (2530N/2900E), Abu Mingar (2630N/2740E) and Farafra (2710N/2818E) oases. Scattered immature adults were present near Abu Simbel (2219N/3138E) and Tushka (2247N/3126E). Low to high-density mature adult groups and more than a dozen small mature swarms laid eggs on the Red Sea coastal plains from north of Berenice (2359N/3524E) to the Sudanese border. High-density adult groups were seen laying eggs in the Red Sea Hills west of Berenice. Hatching and band formation commenced during the second week and, by the end of the month, hoppers had reached third instar. Ground teams treated 6,894 ha in December.

• FORECAST

Moderate-scale breeding will cause locust numbers to increase on the Red Sea coast from south of Marsa Alam to the Sudanese border where hopper bands and small swarms will form.

Saudi Arabia

• SITUATION

During December, locust numbers increased on the northern Red Sea coast between Rabigh (2247N/3901E) and Bader (2346N/3847E) as a result of egg laying and hatching that occurred in late November and early December. Consequently, dozens of first to fourth instar hopper groups and very small bands, up to 1,500 m² in size, formed in December. Scattered immature and mature solitary, *transiens* and gregarious adults and a few small groups were also reported. Control teams treated 1,363 ha of which 1,000 ha were sprayed by air. Elsewhere, scattered immature and mature solitary adults were seen near Yenbo (2405N/3802E) and on the central coast near Lith (2008N/4016E). No locusts were seen in the interior.

• FORECAST

Moderate-scale breeding will cause locust numbers to increase further on the northern Red Sea coast where groups, hopper bands and small swarms will form. Breeding and infestations are expected to extend to central and southern coastal areas.

Yemen

• SITUATION

During the last week of December, isolated immature solitary adults were present on the Red Sea coast near Midi (1619N/4248E) in the north and near Bayt Al Faqih (1430N/4317E) in the centre. Isolated immature adults were also seen on the Gulf of Aden coastal plains northwest of Aden (1250N/4503E).

• FORECAST

Low numbers of adults will persist in the winter breeding areas on the Red Sea and Gulf of Aden coast and breed on a small scale in areas that receive rainfall.

Oman

• SITUATION

During December, no locusts were seen during surveys carried out on the Musandam Peninsula.

• 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 surveys were carried out and no locusts were reported during November.

No locusts were seen during surveys on the southeastern coast near Jask (2540N/5746E) and west of Chabahar (2517N/6036E) during December.

• FORECAST

Low numbers of adults may appear in a few areas on the southeastern coastal plains at the end of the forecast period. No significant developments are likely.

Pakistan

• SITUATION

No locusts were reported during December.

• Forecast

Low numbers of adults may appear in a few areas on the coast of Baluchistan at the end of the forecast period. No significant developments are likely.

India

• SITUATION

No locusts were seen during surveys carried out in December.

• FORECAST

No significant developments are likely.

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.



No. 411

DESERT LOCUST BULLETIN



No. 411

DESERT LOCUST BULLETIN

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 (eclo@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.

Locust tools and resources. FAO has developed a number of tools that National locust information officers and other interested individuals can use for Desert Locust early warning and management:

- **MODIS.** Vegetation imagery every 16 days (http://iridl.ldeo.columbia.edu/maproom/Food_Security/Locusts/Regional/MODIS/index.html)
- **MODIS.** Daily rainfall imagery in real time (http://iridl.ldeo.columbia.edu/maproom/Food_Security/Locusts/index.html)
- **RFE.** Rainfall estimates every day, decade and month (http://iridl.ldeo.columbia.edu/maproom/Food_Security/Locusts/index.html)
- **Greenness maps.** Dynamic maps of green vegetation evolution every decade (<http://www.devocast.eu/user/images/dl/Form.do>)
- **FAODLIS Google site.** A platform for sharing problems, solutions, tips and files for eLocust2, eLocust2Mapper, RAMSES and remote sensing (<https://sites.google.com/site/faodlis>)
- **FAOLOCUST Twitter.** The very latest updates are posted on Twitter (<http://www.twitter.com/faolocust>)
- **FAOLocust Facebook.** A social means of information exchange using Facebook (<http://www.facebook.com/faolocust>)
- **Slideshare.** Locust presentations and photos available for viewing and download (<http://www.slideshare.net/faolocust>)

- **eLERT.** A dynamic and interactive online database of resources for locust emergencies (<http://sites.google.com/site/elertsite>)

SWAC website. The FAO Commission for Controlling the Desert Locust in South-West Asia (SWAC) website (<http://www.fao.org/ag/locusts/SWAC>) is now available in French.

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

- **Desert Locust situation updates.** Archives Section – Briefs
- **Sahel crisis.** Information Section
- **28th session of SWAC final report.** Publications Section – Reports

2013 events. The following activities are scheduled or planned:

- **EMPRES/WR.** 11th Liaison Officer Meeting, Dakar, Senegal (21-25 January)
- **EMPRES/WR.** 8th Steering Committee Meeting, Dakar, Senegal (28-29 January)
- **CLCPRO/EMPRES-RO.** Western Region Locust information officers workshop, Agadir, Morocco (11-14 March)
- **CRC/SWAC.** Inter-regional Locust information officers workshop, Cairo, Egypt (22-25 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.



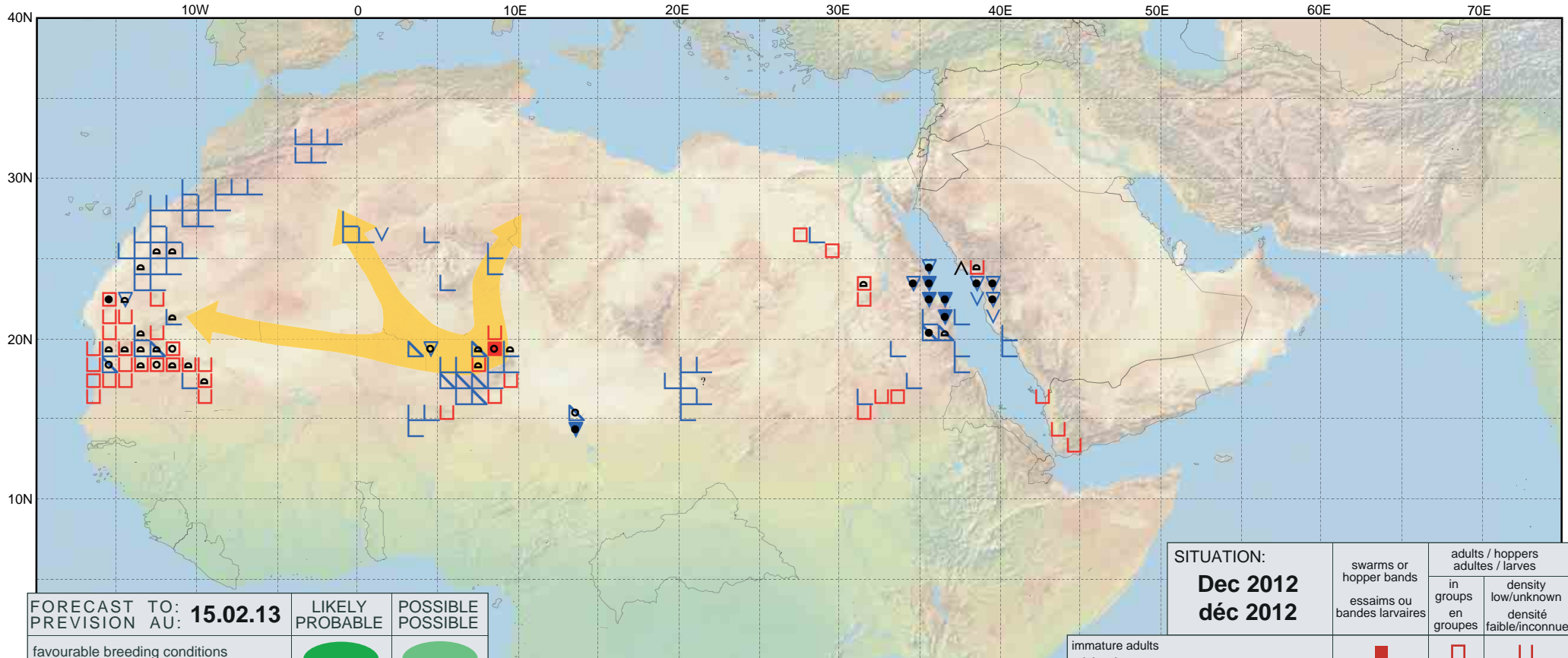
No. 411



Desert Locust Summary

Criquet pèlerin - Situation résumée

411



FORECAST TO: PREVISION AU:	15.02.13	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: Dec 2012 déc 2012	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 hoppers			
larves			
hoppers & adults (combined symbol example) larves et adultes (exemple symboles combinés)			