

warning level: **CAUTION**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 432



**General Situation during September 2014
Forecast until mid-November 2014**

(2.10.2014)

The Desert Locust situation remained calm during September. Only low numbers of hoppers and adults were seen during surveys in the northern Sahel between Mauritania and Eritrea. However, ecological conditions remained very favourable for breeding and there may be more locusts present than seen during the surveys. This should become evident once vegetation dries out and adults form groups. Consequently, there is a risk for groups to form in western Mauritania, northern Mali and Niger, northeast Chad, central and eastern Sudan, and in western Eritrea. It appears that this has already started in eastern Sudan where adult groups and a swarm formed. Strict vigilance is required in all countries during October as there is a potential for the situation to deteriorate. Good rains fell in the winter breeding areas along the eastern side of the Red Sea where small-scale breeding will cause locust numbers to increase. The situation remains unclear in Yemen due to insecurity. Elsewhere, a few small swarms are expected to form in northeast Ethiopia.

Western Region. The situation remained calm in September. Although good rains fell throughout the summer breeding areas in the northern Sahel of West Africa and conditions were favourable for breeding, only low numbers of adults and a few hoppers were detected in **Mauritania** and **Chad** while only adults were seen in **Niger**. There were reports of hoppers in northwest **Mali** and adults in the northeast but neither could be confirmed by surveys due to insecurity. There

is a potential risk that more locusts may be present than indicated by survey results, and this may become evident once vegetation dries out and adults form groups in areas that remain green in parts of Niger and Chad. In Mauritania, this could become evident as more adults appear in the northwest where breeding is expected to occur, causing locust numbers to increase further. Therefore, strict vigilance is required during the forecast period to detect those areas where gregarization could take place. In Northwest Africa, a few adult groups were breeding in irrigated areas of the Central Sahara in **Algeria** that were treated, and isolated adults were seen in northeast **Morocco**.

Central Region. During September, scattered adults were present and breeding in the interior of **Sudan** and western **Eritrea**. As breeding conditions were favourable over a widespread area, more adults may be present than indicated by survey results. This should become evident once vegetation dries out and adults form groups. The first signs of this appeared in eastern Sudan at the end of the month when an increasing number of adult groups and at least one swarm formed and were treated. More groups and small swarms are expected during October, mainly west of the Red Sea Hills, and some of these will move towards the winter breeding areas on the Red Sea coast of Sudan and southeast **Egypt**. No locusts were seen in **Saudi Arabia** and the situation remained unclear in **Yemen** with reports of breeding on the coast and a swarm in the highlands. As good rains fell on the Red Sea coast in both countries, small-scale breeding is expected to occur that will cause locust numbers to increase gradually. Local breeding continued in northeast **Ethiopia** where numerous small hopper bands formed and were treated. A few small swarms could form and move towards northern **Somalia**. No locusts were reported in **Oman**.

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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Eastern Region. The situation remained calm in September with only scattered adults present in a few places along both sides of the **Indo-Pakistan** border. Small-scale breeding may have occurred but locust numbers did not increase significantly. The southwest monsoon withdrew from the area after mid-month. No significant developments are likely.



Weather & Ecological Conditions in September 2014

Ecological conditions remained favourable in the summer breeding of the Sahel in West Africa and Sudan. Good rains fell along parts of the Red Sea coast. Monsoon rains ended in the Indo-Pakistan summer breeding areas.

In the **Western Region**, the Inter-Tropical Convergence Zone (ITCZ) was further north than usual over Mali, Niger and Chad, reaching the Algerian border, the northern Air Mountains in Niger and just south of Fada in northeast Chad during the first decade of September. Thereafter, it retreated southwards. In Mauritania, the ITCZ was located south of 18N, which is about normal. Consequently, good rains fell throughout most of the summer breeding areas in southern Mauritania, northeast Mali, northern Niger and Chad where conditions remained favourable for breeding. Good rains also fell in northwest Mauritania that should allow vegetation to become green. In Northwest Africa, ecological conditions continued to remain favourable for locust survival on a limited scale in the Ziz-Ghris Valley south of the Atlas Mountains.

In the **Central Region**, the Inter-Tropical Convergence Zone (ITCZ) was at its most northerly position over Sudan during the first decade of September, having reached Abu Uruq and Atbara. Thereafter, it retreated steadily southwards, reaching El Obeid by the end of the month. Consequently, good rains fell south of the ITCZ in the summer breeding areas from North Darfur to the western lowlands of Eritrea in early September but declined after mid-month. Good rains also fell along the western side of the Red Sea Hills in Sudan as well as in the highlands

of Eritrea that may run off onto the Red Sea coast. Heavier showers fell in the northern highlands of Ethiopia. Good rains fell along the Red Sea coastal plains from Lith, Saudi Arabia to Mocca, Yemen that should cause vegetation to become green in winter breeding areas. Light showers fell in the interior of Yemen in Wadi Hadhramaut and Shabwah. In the Horn of Africa, good rains fell in eastern Ethiopia and in adjacent areas of the plateau and escarpment in northwest Somalia. As a result, breeding conditions are likely to be favourable in Ethiopia and should improve in northern Somalia.

In the **Eastern Region**, good rains associated with the monsoon fell in parts of the summer areas along both sides of the Indo-Pakistan border, namely Tharparkar and eastern Rajasthan, during the first decade of September. No significant rain fell after mid-month, indicating that the monsoon had withdrawn from the Indo-Pakistan summer breeding areas. Green vegetation was present in eastern Rajasthan and parts of Cholistan and Tharparkar. Vegetation was drier in western Rajasthan except to the north of Jaisalmer.



Area Treated

Algeria	41 ha (September)
Ethiopia	134 ha (September)
Sudan	2,430 ha (September)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

During September, isolated solitarious immature and mature adults were present in the south mainly to the north of Aioun El Atrous (1639N/0936W) and northeast of Tamchekket (1714N/1040W), in the western part of the country north of Boutilimit (1732N/1441W), Magta Lahjar (1730N/1305W), and near the Senegal River southeast of Rkiz (1658N/1514W). Small-scale breeding occurred east of Aguilal Faye (1827N/1444W) where isolated solitarious hoppers of all instars but mainly second instar were present.

• FORECAST

Small-scale breeding is likely to continue during October in the south. As vegetation dries out, small groups may form in some places. Locust numbers are

expected to increase in the west and northwest as adults arrive from the south and breeding occurs.

Mali

• SITUATION

During September, local scouts reported that small-scale breeding occurred in the Adrar des Iforas where solitary hoppers of all instars were seen in W. Tahalt northwest of Kidal (1827N/0125E) and in the far northwest of the country south of Taoudenni (2240N/0358W) in the Marcouba area. Due to insecurity, surveys could not be conducted in either area to confirm these reports.

• FORECAST

Small-scale breeding is likely to be in progress and will continue in parts of Timetrine, Tilemsi Valley, the Adrar des Iforas, and Tamesna, causing locust numbers to increase. As vegetation dries out, small groups are expected to form in some places.

Niger

• SITUATION

During September, isolated immature and mature solitary adults were present in a few places of central Tamesna between In Abangharit (1754N/0559E) and Tassara (1650N/0550E). Isolated mature adults were seen in the Termit area north of Tasker (1507N/1041E) as well as north of Filingué (1421N/0319E) in the southwest.

• FORECAST

Small-scale breeding is likely to continue in southern and central Tamesna, in the Termit and Filingué areas, and perhaps in parts of the Air Mountains, causing locust numbers to increase. As vegetation dries, small groups are likely to form in some places.

Chad

• SITUATION

During September, scattered immature adults were present in northeast Kanem near Salal (1448N/1712E) and northeast of Mao (1406N/1511E) while scattered mature adults were seen in the northeast between Kalait (1550N/2054E) and Fada (1714N/2132E). A few third instar solitary hoppers were reported in southeast Kanem to the northeast of Moussoro (1338N/1629E).

• FORECAST

Small-scale breeding is likely to continue in the northern Sahel and in the northeast, causing locust numbers to increase. As vegetation dries, small groups are likely to form in both places.

Senegal

• SITUATION

No reports were received during 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.

Algeria

• SITUATION

During September, small groups of adults were seen laying eggs near irrigated areas in the Adrar (2753N/0017W) area in the Central Sahara. Ground teams treated 41 ha. No locusts were seen in the south near the borders of Mali and Niger.

• FORECAST

Local infestations are likely to persist in the Adrar area with hatching and perhaps the formation of small groups. Scattered adults may appear in the extreme south as well as east of Tindouf, and breed on a small scale in areas of recent rainfall.

Morocco

• SITUATION

During September, isolated immature solitary adults were seen during the second decade in the northeast near Bouarfa (3232N/0159W).

• FORECAST

No significant developments are likely.

Libya

• SITUATION

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

• FORECAST

No significant developments are likely.

Tunisia

• SITUATION

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

• FORECAST

No significant developments are likely.

CENTRAL REGION

Sudan

• SITUATION

During September, scattered immature and mature



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solitary adults were present at densities of less than 500 adults/ha in North Kordofan and White Nile states between Sodiri (1423N/2906E), Abu Uruq (1554N/3027E) and the Nile Valley, in W. Muqaddam of the Baiyuda Desert northwest of Khartoum, in the Nile Valley north of Dongola (1910N/3027E) and near Shendi (1641N/3322E), along the Atbara River, and near Kassala (1527N/3623E). Small-scale breeding was detected near Kassala where scattered solitary hoppers of all instars were present. Immature and mature adults formed groups at densities up to 1,500 adults/ha in both areas, and laying was reported. At the end of the month, a mature swarm was seen and an increasing number of adult groups were forming. Control operations treated 2,430 ha of which 1,000 ha were by air.

• **FORECAST**

There is a moderate risk that the situation will deteriorate as vegetation dries out in the summer breeding areas and an increasing number of groups, bands and swarm may form, mainly in the Baiyuda Desert and between the Nile Valley and the Red Sea Hills. By the end of the forecast period, adult groups and perhaps a few small swarms are likely to appear in Wadi Diib and on the Red Sea coast.

Eritrea

• **SITUATION**

During August, a few isolated solitary adults were present on the Red Sea coast near Sheib (1551N/3903E).

During September, fourth instar solitary hoppers and scattered mature solitary adults were present in the western lowlands near Kerkebet (1618N/3724E) and Wadi Barka.

• **FORECAST**

Small-scale breeding may continue in parts of the western lowlands during October but should decline by the end of the forecast period.

Ethiopia

• **SITUATION**

During September, breeding continued in the northern Awash Valley near Mile (1123N/4052E) where 121 second instar hopper groups and bands up to 5,000 m² in size as well as fledglings and one immature adult group were present. Ground teams treated 134 ha. The immature swarm reported on 5

August in Bulletin 431 was incorrect as no swarms were seen in the Jijiga area during August.

• **FORECAST**

As vegetation dries out, breeding should end in the northern Awash Valley. Any hoppers that escape control operations may form small adult groups or swarmlets that could spread into adjacent highland areas or move southeast towards Dire Dawa.

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**

There is a low risk that a few small groups and swarmlets from northeast Ethiopia could appear in areas of recent rainfall on the plateau and escarpment where isolated adults may already be present.

Egypt

• **SITUATION**

During September, no locusts were seen on the Red Sea coast between Abu Ramad (2224N/3624E) and the Sudan border and along the shores of Lake Nasser near Garf Husein (2317N/3252E), Tushka (2247N/3126E) and Abu Simbel (2219N/3138E).

• **FORECAST**

By the end of the forecast period, adults and perhaps a few small groups or swarmlets may appear on the Red Sea coast in the southeast from adjacent areas in Sudan.

Saudi Arabia

• **SITUATION**

During September, no locusts were seen along the Red Sea coastal plains between Jizan (1656N/4233E) and Lith (2008N/4016E), and in the interior near Gassim (2621N/4358E).

• **FORECAST**

Scattered adults may be present and breeding on a small scale in areas of recent rainfall on the Red Sea coast between Lith and Jizan. Consequently, locust numbers could increase slightly.

Yemen

• **SITUATION**

The situation remained unclear in September due to insecurity and the absence of surveys. Breeding was in progress on the Red Sea coastal plains near Bajil (1458N/4314E) where scattered mid-instar

solitary hoppers were seen on the 11th. There was an unconfirmed report of an immature and mature swarm on the 18th south of Taiz (1335N/4401E) in the southern highlands.

- **FORECAST**

Locust numbers are expected to continue to increase on the Red Sea coast and, to a lesser extent, on the Gulf of Aden coast as a result of small-scale breeding. There is a risk that a few small groups could form in some areas.

Oman

- **SITUATION**

During September, no locusts were seen during surveys in the northern interior near Adam (2223N/5731E), on the Battinah coast near Jamma (2333N/5733E), in coastal and mountain areas west of Jamma, and on the Musandam Peninsula.

- **FORECAST**

No significant developments are likely.

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

- **FORECAST**

No significant developments are likely.

EASTERN REGION

Iran

- **SITUATION**

During September, no locusts were seen during surveys carried out on the southeast coast near Jask (2540N/5746E).

- **FORECAST**

No significant developments are likely.

Pakistan

- **SITUATION**

No reports were received during September.

- **FORECAST**

Breeding will come to an end in Cholistan and Tharparkar and no significant developments are likely.

India

- **SITUATION**

During September, no locusts were seen in Rajasthan except for two places between Bikaner (2801N/7322E) and the Pakistan border where isolated mature adults were present. No locusts were seen in Gujarat.

- **FORECAST**

Breeding will come to an end in Rajasthan and 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)



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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

- **RFE.** Rainfall estimates every day, decade and month (http://iridl.ideo.columbia.edu/maproom/Food_Security/Locusts/index.html)
- **Greenness maps.** Dynamic maps of green vegetation evolution every decade (http://iridl.ideo.columbia.edu/maproom/Food_Security/Locusts/Regional/greenness.html)
- **eLocust3 training videos.** A set of 15 introductory training videos are available on YouTube: https://www.youtube.com/playlist?list=P_LjxRk5CAwvG_0iFxiZ5C2fLByF3jHvHOx
- **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>)

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

- **Desert Locust situation updates.** Archives

2014 events. The following activities are scheduled or planned:

- **CRC.** 29th Session of the Commission, Abu Dhabi, UAE (23-27 November)
- **EMPRES/WR.** 13th EMPRES Liaison Officer Meeting, Ouagadougou, Burkina Faso (1-5 December)
- **EMPRES/WR.** 10th Steering Committee Meeting, Ouagadougou, Burkina Faso (8-9 December)
- **SWAC.** 50th Anniversary of the Commission, Tehran, Iran (15 December)
- **SWAC.** 29th Session of the Commission, Tehran, Iran (16-18 December)

which, unless checked, can lead to the formation of hopper bands and swarms.

UPSURGE

- a period following a recession marked initially by a very large increase in locust numbers and contemporaneous outbreaks followed by the production of two or more successive seasons of transient-to- gregarious breeding in complimentary seasonal breeding areas in the same or neighbouring Desert Locust regions.

PLAGUE

- a period of one or more years of widespread and heavy infestations, the majority of which occur as bands or swarms. A major plague exists when two or more regions are affected simultaneously.

RECESSION

- period without widespread and heavy infestations by swarms.

REMISSION

- period of deep recession marked by the complete absence of gregarious populations.

WARNING LEVELS

GREEN

- Calm. No threat to crops. Maintain regular surveys and monitoring.

YELLOW

- Caution. Potential threat to crops. Increased vigilance is required; control operations may be needed.

ORANGE

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

RED

- Danger. Significant threat to crops. Intensive survey and control operations must be undertaken.

REGIONS

WESTERN

- locust-affected countries in West and North-West Africa: Algeria, Chad, Libya, Mali, Mauritania, Morocco, Niger, Senegal, Tunisia; during plagues only: Burkino Faso, Cape Verde, Gambia, Guinea and Guinea-Bissau.

CENTRAL

- locust-affected countries along the Red Sea: Djibouti, Egypt, Eritrea, Ethiopia, Oman, Saudi Arabia, Somalia, Sudan, Yemen; during plagues only: Bahrain, Iraq, Israel, Jordan, Kenya, Kuwait, Qatar, Syria, Tanzania, Turkey, UAE and Uganda.

EASTERN

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

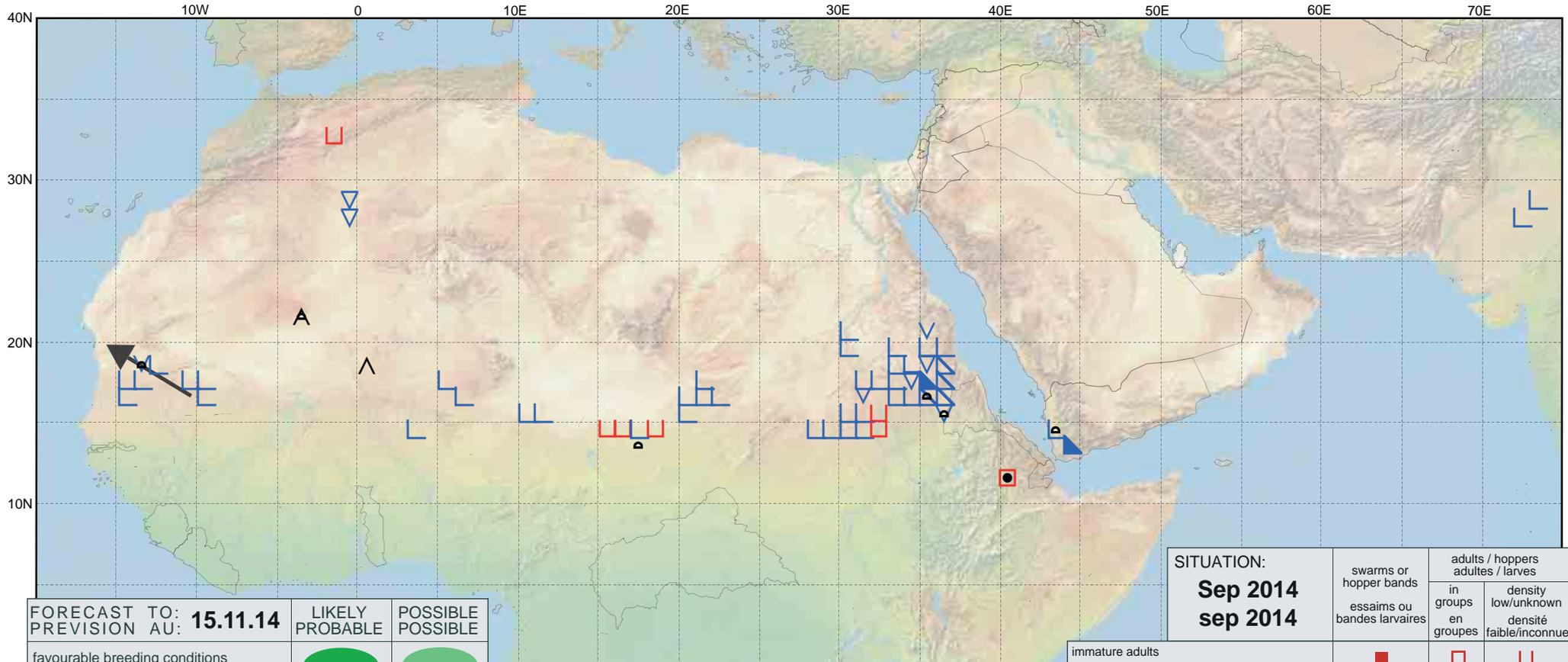


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Desert Locust Summary

Criquet pèlerin - Situation résumée



FORECAST TO: PREVISION AU: 15.11.14	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: Sep 2014 sep 2014	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)			