

warning level: **CAUTION**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 444



**General Situation during September 2015
Forecast until mid-November 2015**

(2.10.2015)

The Desert Locust situation remained calm during September. Despite good rainfall and favourable ecological conditions, only limited breeding has been detected so far in the northern Sahel of West Africa. Nevertheless, locust numbers are gradually increasing and there may be more locusts present than seen during surveys. As the seasonal rains have nearly ended and once vegetation begins to dry out, there is a low to moderate risk that locusts may concentration and form a few small groups in parts of Mauritania, Mali, Niger, Chad and Sudan during October. There will also be a gradual shift of locusts from southern to northwest Mauritania, from northern Mali and Niger to southern Algeria, and from the interior of Sudan to the Red Sea coast. Therefore, caution should be exercised and strict vigilance maintained in all countries during October and November.

Western Region. The situation remained calm in September. Only low numbers of locusts were seen during surveys in southern Mauritania, northern Niger, and central and eastern Chad. There were unconfirmed reports of locusts in northern Mali. As ecological conditions were unusually favourable over a large portion of the summer breeding areas in the northern Sahel this year and not all areas could be surveyed, there may be more locusts present than reported. Consequently, there is a potential risk that groups may form as vegetation starts to dry out. During October, an increasing number of adults are

likely to appear in western Mauritania as well as in the north and in adjacent areas of **Western Sahara** where unusually good rains fell in late September. Locusts may also appear in southern and central **Algeria**. Small-scale breeding could cause locust numbers to eventually increase in these areas.

Central Region. The situation remained calm during September. Although very few locusts were seen during surveys, ecological conditions remained favourable and some undetected breeding may have occurred in **Sudan**. Consequently, there is a risk that locust numbers may increase in October and groups could form as vegetation dries out. The adults are expected to move to areas of recent rainfall west of the Red Sea Hills and eventually reach the winter breeding areas along the Red Sea coast. In **Eritrea**, no locusts were seen during a survey in the western lowlands but good rainfall and runoff occurred in parts of the winter breeding areas along the Red Sea coastal plains. No surveys could be carried out in **Yemen** where the situation was not clear but breeding conditions may be improving along the Red Sea and Gulf of Aden coasts as a result of recent rainfall. In northern **Somalia**, scattered adults may appear in November on the northwest coastal plains where small-scale breeding could occur. No locusts were seen during surveys in **Egypt, Saudi Arabia** and **Oman**.

Eastern Region. The situation remained calm during September. Only scattered adults were detected in the Cholistan Desert of **Pakistan** near the border with India. No locusts were seen in adjacent areas of **India**. By the end of the month, the monsoon rains had ended. Nevertheless, small-scale breeding is likely to continue early in the forecast period but will decline as vegetation dries out.

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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Weather & Ecological Conditions in September 2015

Good rains fell for a third consecutive month throughout the summer breeding areas of the northern Sahel from Mauritania to western Eritrea where large areas of green vegetation and favourable breeding conditions persisted. By the end of the month, the rains had nearly ceased. Rainfall also declined along the Indo-Pakistan border as the southwest monsoon ended.

In the **Western Region**, the Inter-Tropical Convergence Zone (ITCZ) was located further north over the Sahel during September than in most years and reached southern Algeria. Good rains fell in all breeding areas as well as in parts of central and southern Algeria, Western Sahara and northern Mauritania. Consequently, breeding conditions were favourable over large areas of southern Mauritania, in Timetrine, the Tilemsi Valley, Adrar des Iforas and Tamesna of northern Mali, central Tamesna and wadis in the Air Mountains of Niger as well as large portions of the pasture areas between Tahoua and Termit Massif, in northeastern Chad, and in southern Algeria near the Mali border between Timeiaouine and Tin Zaouatene. Ecological conditions were improving in southwest Mauritania and northeast Chad due to late rains. The ITCZ began retreating southwards at mid-month and by the end of the month it had reached its normal position over southern Mauritania (Boutilimit-Oualata), central Mali, central Niger (Tchin-Tasker) and central Chad (Salal-Abeche). This caused the persistent good rains to abate, and vegetation began to dry out in a few places, for example in central Chad. In Northwest Africa, good rains fell in southwest Libya during the last week of September, and small areas of green vegetation persisted south of the Atlas Mountains in the Draa and Ziz-Ghris valleys in Morocco.

In the **Central Region**, the Inter-Tropical Convergence Zone (ITCZ) remained south of its climatological normal mean position during the first decade of September but was nearly normal during the second decade. This allowed the continuation of good rains in Darfur, North Kordofan south of Abu Uruq, and near Kassala while heavier showers

occurred between the Nile Valley and the Red Sea Hills as far north as Tomala. Consequently, vegetation was green in North Darfur, North Kordofan between Sodiri and Abu Uruq, and in the wadis west of the Red Sea Hills between Atbara and Haiya. The ITCZ retreated some 200 km further south than normal during the third decade, reaching El Obeid. This caused the good rains to end in most areas. In Eritrea, good rains fell in the western lowlands. In the winter breeding areas, early rainfall and runoff occurred on the Red Sea coast near Sheib while heavier rains fell along the southern coastal plains. Good rains also fell on parts of the Red Sea coast from Qunfidah, Saudi Arabia to Bab El Mandab, Yemen, on the coast west of Aden, and in the northern interior of Oman near Ibri. Vegetation was mainly dry in all of these areas. In northern Somalia, the short (Deyr) rains commenced on the plateau and escarpment in the northwest where above-average rains may occur this year as a result of El Niño.

In the **Eastern Region**, the southwest monsoon began to withdraw from the summer breeding areas along both sides of the Indo-Pakistan border in September. By the end of the month, it had receded completely and was south of Gujarat. As a result, light to moderate showers fell along the Indo-Pakistan border in Cholistan and Tharparkar deserts at mid-month. Vegetation remained green, particularly in Tharparkar and Cholistan as well as in adjacent areas of West Rajasthan in India. This year's monsoon resulted in about 50% more rainfall than normal in West Rajasthan, average rainfall in East Rajasthan and some 27% less rainfall than normal in Gujarat, India.



Area Treated

No control operations were reported during September.



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

Despite favourable breeding conditions, only isolated immature and mature solitarious adults were seen in a few places east of Nema (1636N/0715W), near Tidjikja (1833N/1126W) and north of Magta Lahjar (1730N/1305W) during surveys carried out in

September. During the last week, a few isolated mid-instar solitary hoppers were seen east of Nema, and isolated immature solitary adults were reported near Akjoujt (1945N/1421W). No surveys were carried out between Kiffa (1638N/1124W) and Nema.

- **FORECAST**

Small-scale breeding will cause locust numbers to increase throughout the south with fledging during October. An increasing number of locusts are likely to appear in the west as well as in recent areas of rainfall in the northwest and north. There is a moderate risk that small groups could form in some of these areas and breed.

Mali

- **SITUATION**

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

During September, there were six reports of locust sightings in the north but only one could be confirmed in which scattered solitary hoppers and adults were present between Anefis (1803N/0036E) and Kidal (1827N/0125E). The other reports were of adults in the southern Adrar des Iforas southeast of Kidal, in the Tilemsi Valley northwest of Aguelhoc (1927N/0052E), and in southern Timetrine southwest of Ti-n-kar (1926N/0022W).

- **FORECAST**

Small-scale breeding will cause locust numbers to increase in Timetrine, Tilemsi Valley, Adrar des Iforas and Tamesna where there is a moderate risk that a few small groups will form once vegetation begins to dry out.

Niger

- **SITUATION**

During the first week of September, low numbers of immature and mature adults were seen during a survey in Tamesna near In Abangharit (1754N/0559E). Copulating adults were reported at one location. No surveys were carried out elsewhere on the Tamesna Plains or in central pasture areas.

- **FORECAST**

Small-scale breeding will cause locust numbers to increase in Tamesna, in central areas between Tahoua and Termit Massif and, perhaps, in the Air Mountains. There is a moderate risk that a few small groups will form in these areas once vegetation begins to dry out.

Chad

- **SITUATION**

During September, isolated immature and mature solitary adults were present in Kanem and Batha between Salal (1448N/1712E) and Djedaa (1331N/1834E), and in the east from north of Abeche

(1349N/2049E) to south of Fada (1714N/2132E). The number of locations and density, up to 1,000 adults/ha, increased compared to the previous month, especially in the east. Small-scale breeding was detected near Arada where third instar solitary hoppers were seen at mid-month from eggs that were laid during the third week of August. A few adults were seen laying eggs during the last week near Kalait (1550N/2054E).

- **FORECAST**

Small-scale breeding will cause locust numbers to increase further in Kanem, Batha, Biltine and BET with fledging in October. There is a moderate risk that a few small groups will form in these areas once vegetation begins to dry out.

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, no locusts were seen during surveys carried out in the central Sahara between Timimoun (2915N/0014E) and Reggane (2643N/0010E), and in the southern Sahara southwest of Tamanrasset (2250N/0528E).

- **FORECAST**

Scattered adults may appear near irrigated areas of the central Sahara in the Adrar area, in runoff areas to the south and west of the Hoggar Mountains and in the extreme south near the Mali border. Small-scale breeding could occur in these areas.

Morocco

- **SITUATION**

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



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- **FORECAST**

Low numbers of adults are expected to appear in areas of recent rainfall in the Western Sahara where small-scale breeding could eventually occur.

Libya

- **SITUATION**

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

- **FORECAST**

No significant developments are likely.

Tunisia

- **SITUATION**

No reports were received during September.

- **FORECAST**

No significant developments are likely.

CENTRAL REGION

Sudan

- **SITUATION**

During the first half of September, scattered immature and mature solitary adults were present near cropping areas along the Nile River north of Dongola (1910N/3027E) and along the Atbara River near Ed Damer (1734N/3358E). Isolated adults were seen in the extreme north near Selima Oasis (2122N/2119E). No locusts were reported elsewhere in North Kordofan, Northern, and River Nile states as well as on the western side of the Red Sea Hills.

- **FORECAST**

Small-scale breeding will cause locust numbers to increase between West Darfur and the Red Sea Hills as well as in cropping areas along the Nile and Atbara rivers. There is a moderate risk that a few small groups will form in these areas once vegetation begins to dry out and move east towards the Red Sea coast.

Eritrea

- **SITUATION**

No locusts were seen in the western lowlands between Teseney (1506N/3639E) and Kerkebet (1604N/3725E) in mid-September.

- **FORECAST**

Small-scale breeding could cause locust numbers to increase slightly in the western lowlands during October. By the end of the forecast period, scattered

adults are likely to appear in areas of recent rainfall on the Red Sea coastal plains.

Ethiopia

- **SITUATION**

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

- **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 August and September.

- **FORECAST**

Scattered adults are likely to appear on the northwest coastal plains in November and breed on a small scale in areas that receive rainfall.

Egypt

- **SITUATION**

No locusts were seen near Lake Nasser in the Tushka (2247N/3126E) and Abu Simbel (2219N/3138E) areas during September

- **FORECAST**

No significant developments are likely.

Saudi Arabia

- **SITUATION**

No locusts were seen during surveys carried out in September near Mecca (2125N/3949E).

- **FORECAST**

Low numbers of adults may appear in areas of recent rainfall on the central Red Sea coastal plains and eventually breed on a small-scale towards the end of the forecast period if conditions are favourable.

Yemen

- **SITUATION**

No surveys were possible during September due to continued insecurity.

- **FORECAST**

Scattered adults may be present and breeding on a small-scale in areas of recent rainfall on the Red Sea and Gulf of Aden coasts. This situation is expected to continue during the forecast period.

Oman

- **SITUATION**

No locusts were seen during surveys on the

Musandam Peninsula and in the Sharqiya region near Sinaw (2230N/5802E) in September.

• **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**

No locusts were seen on the southeast coast near Jask (2540N/5746E) during September.

• **FORECAST**

No significant developments are likely.

Pakistan

• **SITUATION**

During September, isolated mature solitary adults were seen in a few places to the east of Rahimyar Khan (2822N/7020E) and Bahawalpur (2924N/7147E) in the Cholistan and Khipro desert near the Indian border. No locusts were seen in the Las Bela area west of Karachi (2450N/6702E).

• **FORECAST**

Small-scale breeding is likely to continue early in the forecast period but will decline as vegetation dries out in Tharparkar, Khipro and Cholistan.

India

• **SITUATION**

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

• **FORECAST**

Small-scale breeding is likely to continue early in the forecast period but will decline as vegetation dries out in Rajasthan and Gujarat.

Afghanistan

• **SITUATION**

No reports received.

• **FORECAST**

No significant developments are likely.

the perceived risk or threat of current Desert Locust infestations to crops and appropriate actions are suggested for each level.

Locust reporting. During calm (green) periods, countries should report at least once/month and send RAMSES data with a brief interpretation. During caution (yellow), threat (orange) and danger (red) periods, often associated with locust outbreaks, upsurges and plagues, RAMSES output files with a brief interpretation should be sent at least twice/week within 48 hours of the latest survey. Affected countries are also encouraged to prepare decadal bulletins summarizing the situation. All information should be sent by e-mail to the FAO/ECLo Desert Locust Information Service (ecllo@fao.org). Information received by the end of the month will be included in the FAO Desert Locust Bulletin for the current month; otherwise, it will not appear until the following month. Reports should be sent even if no locusts were found or if no surveys were conducted.

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://iridl.ldeo.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=PLf7Fc-oGpFHEdv1jAPaF02TCfpcnYoFQT>
- **RAMSESV4 training videos.** A set of basic training videos are available on YouTube: <https://www.youtube.com/playlist?list=PLf7Fc-oGpFHGyzXqE22j8-mPDhhGNq5So>



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



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- **RAMSESV4 and eLocust3 updates.** Updates can be downloaded from <https://sites.google.com/site/rv4elocust3updates/home>
- **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>)

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

- **Pesticide Referee Group follow-up.** Recommendations of the Stakeholder Workshop on the Procurement and Supply of Pesticide for Locust Control, Rome (2-3 September) – Information (News/Events 2015)

Training videos. See the new links above for the eLocust3 and RAMSESV4 training videos on YouTube.



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

RECESSION

- period without widespread and heavy infestations by swarms.

REMISSION

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

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.

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.

WARNING LEVELS

GREEN

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

YELLOW

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

ORANGE

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

RED

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

REGIONS

WESTERN

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

CENTRAL

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

EASTERN

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



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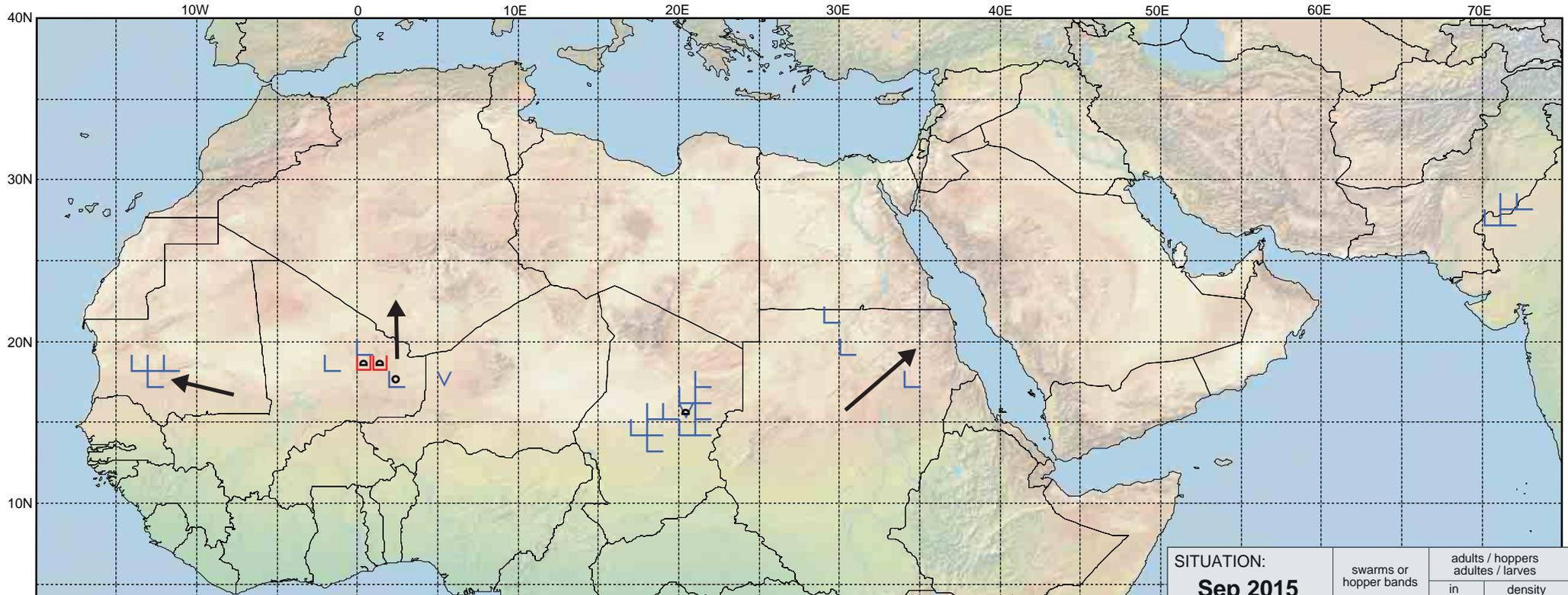
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Desert Locust Summary

Criquet pèlerin - Situation résumée

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FORECAST TO: PREVISION AU:	15.11.15	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 2015 sep 2015	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)			