

warning level: **THREAT**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 426



**General Situation during March 2014
Forecast until mid-May 2014**

(2 Apr 2014)

The Desert Locust situation improved during March along both sides of the Red Sea due to control operations and drying conditions. Nevertheless, there remains a risk that adult groups and perhaps a few small swarms may move into the spring breeding areas in the interior of Saudi Arabia and Yemen where one generation of breeding is possible. Local breeding occurred in northern Oman where it is expected to continue. A few hopper bands formed in irrigated areas along the Nile Valley in northern Sudan. Several swarms formed on the northwest coast of Somalia and moved into eastern Ethiopia where breeding is likely to occur in areas of recent rainfall. Elsewhere, small-scale breeding is likely to occur during the forecast period in the spring breeding areas of Northwest Africa and Southwest Asia, causing locust numbers to increase slightly.

Western Region. The situation remained calm during March. Ground teams treated a few small hopper groups near irrigated agricultural schemes in the central Sahara of **Algeria**. No locusts were reported elsewhere in the region. During the forecast period, low numbers of adults are likely to appear in the spring breeding areas south of the Atlas Mountains in **Morocco** and **Algeria** as well as in southwest **Libya** and breed on a small scale in areas that receive rainfall. No significant developments are expected.

Central Region. Locust infestations declined in winter breeding areas along both sides of the Red Sea due to control operations and drying conditions. Aerial and ground control operations were undertaken in **Saudi Arabia** (23,277 ha) and **Sudan** (4,669 ha) while limited ground control operations were carried out in **Eritrea** (160 ha) and **Yemen** (4 ha). Numerous hopper bands persisted on the central coast of Saudi Arabia and egg-laying occurred on the northern coast. During the forecast period, adult groups and perhaps a few small swarms are likely to appear in the interior of Saudi Arabia and lay eggs in favourable areas that will cause locust numbers to increase as hatching and band formation occurs. Locust numbers are also likely to increase in the Nile Valley in northern **Sudan** and, to a lesser extent, in northern **Oman**. In the Horn of Africa, several swarms moved from the northwest coast of **Somalia** to eastern **Ethiopia** where they are expected to mature and lay eggs that could start to hatch by the end of April. Limited aerial and ground control operations were carried out in Ethiopia.

Eastern Region. The situation remained calm in March. Local breeding occurred at one place in the interior of southeast **Iran**. During the forecast period, low numbers of adults are likely to appear in coastal and interior areas of southeast Iran and southwest **Pakistan** and breed on a small scale in areas of recent rainfall.

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. 426

DESERT LOCUST BULLETIN



Weather & Ecological Conditions in March 2014

Vegetation continued to dry out in winter breeding areas along the Red Sea coasts. Good rains fell in parts of the spring breeding areas in Northwest Africa, the interior of the Arabian Peninsula, the Horn of Africa, and Southwest Asia.

In the **Western Region**, rain fell at times during March in parts of the spring breeding areas of Northwest Africa. In Algeria, moderate rains fell over the northwestern Sahara near Naama and El Bayadh. Ecological conditions remained unfavourable in the spring breeding areas except in parts of Bechar and Naama and near irrigated agricultural schemes in Adrar. In Morocco, dry conditions prevailed south of the Atlas Mountains except for a few green patches in the Ziz-Ghris Valley. In Libya, dry conditions prevailed on the Al Hamada Al Hamra plateau in the west while green vegetation was present along the border with Tunisia between Ghadames and Nalut. Dry conditions prevailed in the northern Sahel of West Africa.

In the **Central Region**, good rains fell at times during March in the spring breeding areas in the interior of the Arabian Peninsula and the Horn of Africa. In Egypt, moderate to heavy rains fell on the northern Red Sea coast between Marsa Alam and Hurgada, extending to Baris in the Western Desert on 8-9 March. Vegetation remained mainly dry on the Red Sea coast between Berenice and Halaib. In Saudi Arabia, light to moderate rains fell along the northern Red Sea coast to the north of Yenbo, extending into the interior to Al Jawf and Hail. Consequently, breeding conditions should remain favourable along the northern coast and improve in the northern interior. In Yemen, moderate to heavy rains fell at mid-month and at the end of the month in parts of the spring and summer breeding areas in the interior between Ataq and Bayhan, and north of Wadi Hadhramaut and west of Thamud. Vegetation was drying out on the Red Sea coast in the absence of significant rainfall, and ecological conditions remained favourable only in a few places mainly near irrigated areas. Strong northerly and northeasterly winds occurred over the Arabian Peninsula on 26-28 March. Good rains fell at times in the northern interior of Oman and breeding

conditions were favourable. In the Horn of Africa, light to moderate rain fell in eastern Ethiopia between Dire Dawa and the Ogaden where breeding conditions are expected to improve. Although light showers fell at times on the plateau in northwestern Somalia, vegetation remained mainly dry, and vegetation dried out on the northwest coast.

In the **Eastern Region**, light to moderate rains fell at times in parts of the spring breeding areas in southeast Iran. During the second decade of March, good rains fell in the Jaz Murian Basin and at the end of the month along the coast. Consequently, ecological conditions are expected to improve and become favourable for breeding.



Area Treated

Control operations declined in March, treating less than 28,000 ha compared to 50,000 ha in February.

Algeria	1 ha (March)
Eritrea	160 ha (March)
Ethiopia	190 ha (March)
Oman	4 ha (March)
Saudi Arabia	23,277 ha (1-27 March)
Sudan	4,669 ha (1-23 March)
Yemen	4 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

No significant developments are likely.

Mali

• SITUATION

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

• FORECAST

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

Niger

• SITUATION

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

- **FORECAST**

Scattered adults are likely to persist in a few places in the Air Mountains and the eastern Tamesna where small-scale breeding could occur in areas that receive rainfall or runoff.

Chad

- **SITUATION**

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

- **FORECAST**

No significant developments are likely.

Senegal

- **SITUATION**

No reports were received during 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, ground teams treated 1 ha of hopper groups in irrigated areas near Adrar (2753N/0017W). No locusts were seen during surveys carried out near Tindouf (2741N/0811W), from south of Beni Abbes (3011N/0214W) to Naama (3316N/0018W), and near In Salah (2712N/0229E) and Tamanrasset (2250N/0528E).

- **FORECAST**

Scattered adults are likely to appear and breed on a small scale south of the Atlas Mountains between Beni Abbes and Ain Sefra, in the west near Tindouf, in central Sahara irrigated areas near Adrar, and in the east near Illizi and Djanet.

Morocco

- **SITUATION**

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

- **FORECAST**

Low numbers of adults may be present in parts of the Western Sahara and breed on a small-scale in areas that receive rainfall. Scattered adults are likely to appear south of the Atlas Mountains in the Draa and Ziz-Ghris valleys where small-scale breed will cause locust numbers to increase slightly.

Libya

- **SITUATION**

No locusts were seen in March during surveys

carried out in the west on the Al Hamada Al Hamra plateau, and along the Tunisian border between Ghadames (3010N/0930E) and Nalut (3152N/1058E).

- **FORECAST**

Low numbers of adults are likely to appear in the southwest near Ghat and breed on a small scale if rainfall occurs.

Tunisia

- **SITUATION**

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

- **FORECAST**

No significant developments are likely.

CENTRAL REGION

Sudan

- **SITUATION**

During March, aerial (3,424 ha) and ground (795 ha) control operations continued in the northeast against groups of hoppers and immature and mature adults along Wadi Oko/Diib between Tomala (2002N/3551E) and Sufiya (2119N/3613E). Adult groups laid eggs during the first half of the month in W. Diib. A few scattered mature solitary adults were seen west of W. Diib as well as on the central coast and in Tokar Delta. On the southern coast, only scattered gregarious adults were maturing near Adobana (1810N/3816E) and Karora (1745N/3820E).

In the Nile Valley, breeding occurred in irrigated schemes southwest of Abu Hamed (1932N/3320E) where hopper bands formed, and a few scattered mature solitary adults and at least one adult group were present. Ground teams treated 450 ha.

- **FORECAST**

Limited hatching may occur early in the forecast period in Wadi Diib; otherwise infestations in the northeast and on the Red Sea coast will decline as vegetation dries out. Locust numbers are likely to increase in the Nile Valley between Abu Hamed and Dongola as adults and perhaps a few small groups appear from winter breeding areas and lay eggs near irrigated schemes.

Eritrea

- **SITUATION**

During March, mid to late-instar hopper groups continued to develop south of Massawa on the



No. 426



No. 426

DESERT LOCUST BULLETIN

Ghelaelo Peninsula between Inghel (1528N/3953E) and Ghelaelo (1507N/4004E) where scattered immature and mature adults were also present. New hatching was reported at the end of the month. Control operations treated 160 ha in March. Elsewhere, mature adults were seen west of Mersa Fatma (1454N/4018E).

During March,

- **FORECAST**

Locust numbers should decline on the coast south of Massawa due to control operations and drying conditions.

Ethiopia

- **SITUATION**

During March, a medium-sized immature swarm appeared on the 11th and 13th in the east between Jijiga (0922N/4250E) and Chinhahsan (0930N/4242E) from adjacent areas of the plateau in northwest Somalia. During the last week of the month, scattered gregarious adults and small immature swarms arrived at several places between Dire Dawa (0935N/4150E) and Ayasha (1045N/4234E) as well as near Jijiga. Ground and aerial control operations treated 190 ha during March.

- **FORECAST**

Small swarms are likely to continue to appear during early April in the Jijiga area and disperse between Jijiga, Harar, Dire Dawa and Ayasha where they will mature and lay in areas of recent rainfall. Hatching and band formation could commence by the end of April.

Djibouti

- **SITUATION**

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

- **FORECAST**

There is a low risk that a few adult groups and perhaps a few small swarms may pass through the southeast from northwest Somalia to eastern Ethiopia early in the forecast period.

Somalia

- **SITUATION**

During March, hopper bands and groups of immature gregarious adults were present in the first week on the northwest coast between Gerisa

(1036N/4325E) and Lughaye (1041N/4356E). As vegetation dried out, immature swarms formed and moved up the escarpment and across the plateau between Boroma (0956N/4313E) and Hargeisa (0931N/4402E) and, to a lesser extent, Burao (0931N/4533E). From the 11th onwards, several swarms were seen near Boroma and crossing the border at Togochale (0936N/4320E) to eastern Ethiopia. Sightings increased during the last week of the month mainly near Boroma. On the 28th, an immature swarm flew over Hargeisa. At the end of the month, there was an unconfirmed report of mature gregarious adults laying eggs and hatching on the northwest coast between Gerisa and Lughaye.

- **FORECAST**

Several swarms are likely to continue to appear on the plateau in early April. Most of the swarms will cross to eastern Ethiopia but a few may persist if vegetation becomes green from recent rains between Boroma and Burao. If conditions are favourable, adults will mature and lay eggs that will hatch, leading to the formation of small hopper bands in May.

Egypt

- **SITUATION**

No locusts were seen in March during surveys carried out on the Red Sea coast and in subcoastal areas between Berenice (2359N/3524E) and the Sudan border, near Hurghada, along both sides of Lake Nasser in the Allaqi, Garf Husein (2317N/3252E), Abu Simbel (2219N/3138E) and Tushka (2247N/3126E) areas.

- **FORECAST**

No significant developments are likely.

Saudi Arabia

- **SITUATION**

During March, hopper bands of all instar were present on the central Red Sea coast between Lith (2008N/4016E) and Qunfidah (1909N/4107E), in the Asir Mountains between Mecca (2125N/3949E) and Taif (2115N/4021E), and on the northern Red Sea coast between Yenbo (2405N/3802E) and Al Wajh (2615N/3627E). Adult groups laid eggs on the north coast and interior from Umm Lajj (2501N/3716E) to east of Tabuk (2823N/3635E). On the central coast, groups of adults were maturing between Lith and Qunfidah and in the Asir Mountains south of Abha (1813N/4230E). Control operations treated 23,277 ha, mainly near Qunfidah, of which 4,200 ha were by air, on 1-27 March. No locusts were seen in the interior spring breeding areas near Al Jawf (2948N/3952E), between Khaybar (2542N/3917E) and Gassim (2621N/4358E), north of Bisha (2000N/4236E), and near Najran (1729N/4408E).

- **FORECAST**

Locust infestations are expected to decline on the Red Sea coastal plains except in the north where additional hatching and hopper group and band formation may occur. There is a moderate to high risk that adult groups and perhaps a few small swarms will appear in the interior and lay eggs in favourable areas that will cause locust numbers to increase as hatching and band formation occurs.

Yemen

- **SITUATION**

During March, locust infestations declined on the Red Sea coast and only low numbers of immature and mature solitarious and *transiens* adults persisted between Al Zuhrah (1541N/4300E) and Midi (1619N/4248E). A few late instar solitarious hoppers, fledglings and copulating adults were seen southwest of Suq Abs (1600N/4312E) in the first week. Ground teams treated 4 ha. Immature adults were present on the central coast south of Hodeidah (1450N/4258E). There were unconfirmed reports of individual locusts seen in the highlands, including Sana'a (1521N/4412E). On the southern coast, a few late instar solitarious hoppers and fledglings mixed with scattered adults were present northwest of Aden near Am Rija (1302N/4434E). Scattered immature and mature solitarious adults were also seen near Lahij (1303N/4453E) and Zinjibar (1306N/4523E).

- **FORECAST**

Low numbers of adults are likely to persist in a few places along the northern coastal plains of the Red Sea and on the Gulf of Aden coast near Aden. Scattered adults and perhaps a few small groups may appear in the spring breeding areas of the interior and lay eggs in areas of recent rainfall that will hatch during the forecast period, causing locust numbers to increase slightly.

Oman

- **SITUATION**

During March, small-scale breeding occurred in the northern interior near Ibri (2314N/5630E) and south of Buraimi (2415N/5547E) where second to fifth instar solitarious hoppers and immature adults were present in a few places. Ground teams treated 4 ha. There were unconfirmed reports of locusts between Adam (2223N/5731E) and Sinaw (2230N/5802E). No locusts were seen on the Musandam Peninsula.

- **FORECAST**

Additional breeding is likely to occur on a small scale in areas of recent rainfall in the northern interior, causing locust numbers to increase and perhaps form a few small groups.

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, isolated mature solitarious adults were seen at one place along the coast east of Chabahar (2517N/6036E) on the 3rd. No locusts were seen elsewhere near Chabahar and Jask (2540N/5746E). Scattered mature solitarious adults were seen laying eggs in the Jaz Murian Basin near Ghale Ganj (2731N/5752E) at mid-month.

- **FORECAST**

Low numbers of adults are likely to appear along the southeast coast and breed on a small scale in areas of recent rainfall. Limited hatching is likely to commence in Jaz Murian in early April.

Pakistan

- **SITUATION**

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

- **FORECAST**

Low numbers of adults are likely to appear along the Baluchistan coast and breed on a small scale in areas of recent rainfall.

India

- **SITUATION**

During March, no locusts were seen during surveys carried out in Rajasthan and Gujarat.

- **FORECAST**

No significant developments are likely.

Afghanistan

- **SITUATION**

No reports received.

- **FORECAST**

No significant developments are likely.



No. 426



No. 426

DESERT LOCUST BULLETIN



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.Ideo.columbia.edu/maproom/.Food_Security/Locusts/.Regional/.MODIS/index.html)
- **MODIS.** Daily rainfall imagery in real time (http://iridl.Ideo.columbia.edu/maproom/.Food_Security/Locusts/index.html)
- **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)
- **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>)

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

- **Desert Locust situation updates.** Archives
- **Current threats updates.** Information

eLocust3. New introductory training videos are now available in three languages:

- eLocust3 in the field (http://www.youtube.com/watch?v=JX5-b5u_nlc)
- eLocust3 antenna (http://www.youtube.com/watch?v=qk9_pIF12s0)
- eLocust3 charging (<http://www.youtube.com/watch?v=KoubKeCMIYQ>)

2014 events. The following activities are scheduled or planned:

- **CLCPRO/CRC/SWAC.** Inter-regional Locust Information Officers workshop, Agadir, Morocco (19-23 May)
- **CRC.** 1st Sub-regional workshop on maintaining Desert Locust sprayers for non-frontline countries, Ismailia, Egypt (25-28 May)
- **CLCPRO.** 9th Executive Committee meeting and 7th Session of the Commission, Nouakchott, Mauritania (22-26 June)
- **CRC.** 29th Session of the Commission, UAE (November)
- **SWAC.** 29th Session (50th anniversary) of the Commission, Tehran, Iran (15-18 December)



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.

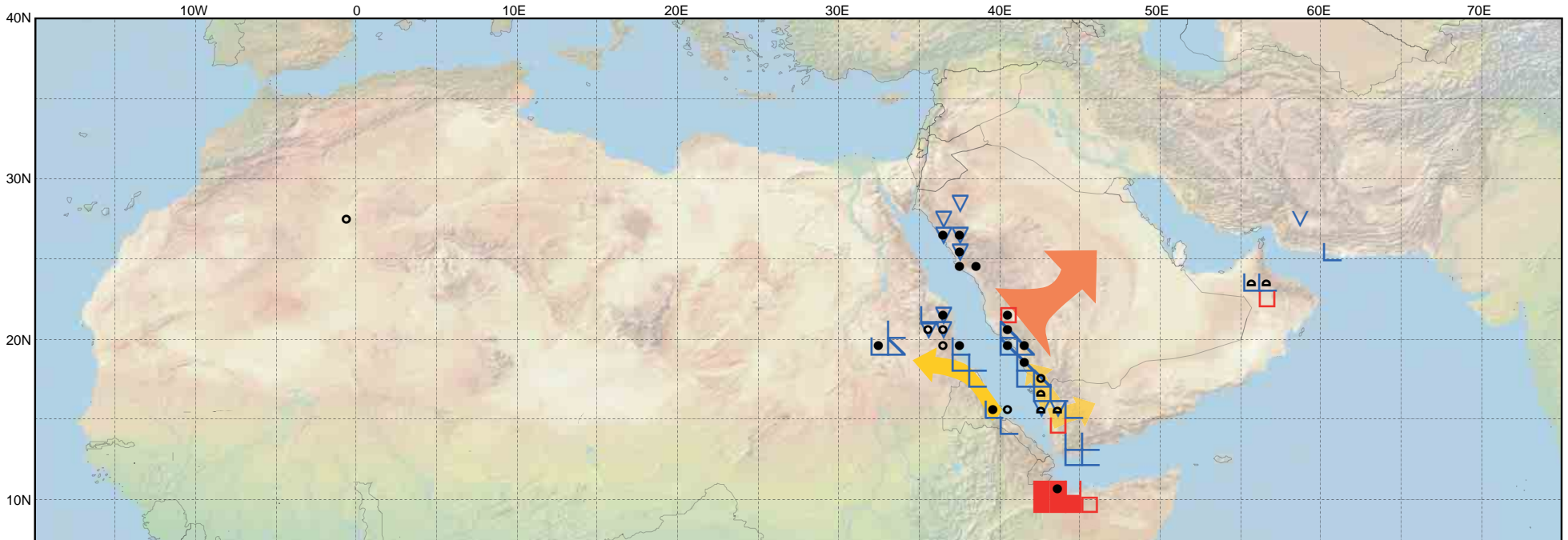


No. 426



Desert Locust Summary

Criquet pèlerin - Situation résumée



FORECAST TO: PREVISION AU:	LIKELY PROBABLE	POSSIBLE POSSIBLE
15.05.14		
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 2014 mar 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)			