

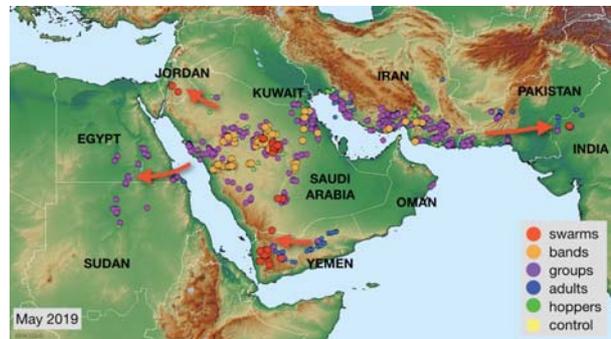


Desert Locust Bulletin

General situation during May 2019
Forecast until mid-July 2019

WESTERN REGION: CAUTION

SITUATION. Limited control was carried out in central **Algeria** (16 ha) from local breeding. Scattered adults were present in northwest **Mauritania** and northern **Mali**.
FORECAST. Small-scale breeding may commence earlier than normal in **Niger** and **Chad** followed by **Mauritania** and **Mali**, causing locust numbers to increase slightly. A few swarms could reach eastern Chad from Arabia.



CENTRAL REGION: THREAT

SITUATION. **Saudi Arabia** treated nearly 75 000 ha of hopper and adult groups, bands and swarms caused by up to two generations of breeding. Swarms moved from eastern **Yemen** to the highlands and Saudi Arabia while others moved from Saudi Arabia to **Jordan** (2 900 ha treated) and **Kuwait** (15 603 ha). Control ended on the Red Sea coast in **Egypt** (3 341 ha) but adult groups moved to the interior in southern Egypt and northern **Sudan** (790 ha treated).
FORECAST. Spring breeding will decline in **Saudi Arabia** and swarms that are not detected or controlled will move to **Sudan** and, to a lesser extent, **Yemen** and through the Persian Gulf to India and Pakistan. Summer breeding may start early in Sudan and perhaps Yemen due to good rains in May.

Spring-bred locust infestations threaten summer areas

Intensive ground and aerial control operations continued during May against widespread infestations of hopper and adult groups, bands and swarms in Saudi Arabia and Iran that developed from two generations of unprecedented spring breeding. Swarms moved from eastern Yemen into the central highlands and a few continued into southern Saudi Arabia. A few swarms moved to southern Jordan during a brief period of unusual southerly winds while hopper bands and immature adult groups were present along the Kuwait / Saudi Arabia border. Winter-bred immature adult groups persisted on the northern Red Sea coast of Saudi Arabia and the coast in southeast Egypt. At the end of May, adult groups appeared in the interior along both sides of the Egypt/Sudan border. While the control operations have reduced locust infestations in the spring breeding areas, populations that are not detected or cannot be treated will form groups and small swarms that will move to summer breeding areas in the interior of Sudan and Yemen, and along the Indo-Pakistan border. As rains have occurred some six weeks earlier than normal in these areas, breeding could commence in June. Depending on the summer rains, two generations of breeding may be possible this year, causing a further increase in locust numbers by October. All efforts should be undertaken to control the current situation and be prepared for the summer. Very little breeding occurred in the Western Region this spring so locust numbers remain low for the beginning of summer breeding that may start earlier than normal in Niger and Chad.

EASTERN REGION: THREAT

SITUATION. Intensive control operations continued in southern **Iran** (346 180 ha) and **Pakistan** (4 135 ha) against hopper and adult groups, and hopper bands from up to two generations of breeding. Adults and groups migrated to the Indo-Pakistan border area where **India** initiated control operations (1 560 ha).
FORECAST. Spring breeding will end in **Iran** and **Pakistan** and infestations that are not detected or controlled will form adult groups and a few small swarms that will move to the **Indo-Pakistan** border areas and breed.

The FAO Desert Locust Bulletin is issued every month by the Desert Locust Information Service (DLIS) at FAO HQ in Rome, Italy. DLIS continuously monitors the global Desert Locust situation, weather and ecology to provide early warning based on survey and control results from affected countries, combined with remote sensing, historical data and models. The bulletin is supplemented by Alerts and Updates during periods of increased Desert Locust activity.

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Weather & Ecological Conditions in May 2019

Good rains fell in the spring breeding areas of the Arabian Peninsula and in southwest Asia, but vegetation started to dry out. Good pre-monsoon rains fell along the Indo-Pakistan border and early summer rains fell in parts of Niger, Chad and Sudan. This may allow summer breeding to commence earlier than normal.

WESTERN REGION

Very little rain fell during May in the spring breeding areas on Northwest Africa except for light to moderate showers in the northern Sahara of Algeria and from eastern Algeria near Illizi to southwest Libya near Ghat. Consequently, ecological conditions remained generally dry and mostly unfavourable for breeding except near irrigated perimeters in the Adrar Valley of the Central Sahara in Algeria. In the Sahel of West Africa, the Inter-Tropical Convergence Zone (ITCZ) remained mostly south of the summer breeding areas except during the last decade of May when it was about 200 km further north than normal over central Niger and Chad. Consequently, light to moderate rains fell earlier than usual near Tahoua and Tasker in Niger, and near Nokou and Abeche in Chad.

CENTRAL REGION

Good rains fell in the spring breeding areas of the interior of Saudi Arabia during the first two decades of May, mainly between Zalim, Gassim, Riyadh and Jubail. Good rains also fell further south near Najran, extending to the interior of Yemen during the second and third decades of the month. These rains are likely to allow ecological conditions to become favourable for breeding during the summer in Yemen. Good rains also fell on the Red Sea coastal plains of Yemen. In the summer breeding areas of Sudan, the Inter-Tropical Convergence Zone (ITCZ) was located about 175 km further north than usual throughout May, reaching Mellit, Darfur and Sodiri, North Kordofan by the end of the month. This caused rains to fall in southern parts of the summer breeding areas much earlier than normal, mainly near El Fasher, El Obeid and El Geneina.

EASTERN REGION

Good rains fell during the second decade of May in coastal areas of Hormozgan and Sistan-Baluchistan provinces in southern Iran, extending to Baluchistan, Pakistan where heavier rains occurred in coastal and subcoastal areas. Lighter rains fell in the Jaz Murian Basin of southeast Iran. Despite these rains, vegetation began drying out in the spring breeding areas due to high temperatures. During the first decade of May, unusually good pre-monsoon rains fell along the Indo-Pakistan border, mainly in West

Rajasthan, India and adjacent parts of Cholistan, Pakistan. This was followed by widespread heavier showers during the second decade from Jodhpur, India to Rohri, Pakistan, covering Rajasthan in India and Nara and Cholistan deserts in Pakistan. Lighter showers fell in these same areas at the end of the month. This will allow favourable ecological conditions to develop much earlier than normal in the summer breeding areas along both sides the Indo-Pakistan border.



Area Treated

Nearly 450 000 ha were treated during May.

Algeria	16 ha (May)
Egypt	3 341 ha (May)
India	1 560 ha (May)
Iran	346 180 ha (May)
Jordan	2 900 ha (May)
Kuwait	50 ha (April)
	15 603 ha (May)
Pakistan	4 135 ha (May)
Saudi Arabia	74 237 ha (May)
Sudan	790 ha (May)



Desert Locust Situation and Forecast

WESTERN REGION

MAURITANIA

• SITUATION

During May, immature adults and groups, at densities of 4 500 adults/ha, mixed with a few mature solitary adults were present at one place in southwest Adrar to the southeast of Oujf (2003N/1301W) from earlier breeding. Immature solitary adults at densities up to 760 adults/ha were seen at a few places northwest of Oujf and mature isolated solitary adults were present at one place in Tagant northwest of N'Beika (1758N/1215W).

• FORECAST

Low numbers of locusts are likely to persist in a few places of southwest Adrar and Tagant. Scattered adults are likely to appear by the end of the forecast period in the south and southeast where small-scale breeding will commence with the onset of the summer rains.

MALI

• SITUATION

During the first week of May, scattered immature adults were reported at three places in the Adrar des Iforas near Aguelhoc (1927N/0052E).

• FORECAST

Low numbers of locusts will persist in parts of the Adrar des Iforas and breed on a small scale once the summer rains commence.

NIGER

• SITUATION

No locust activity was reported during May.

• FORECAST

Scattered adults are likely to appear in areas of recent rainfall near Tahoua and Taker and breed on a small scale that will eventually extend to Tamesna.

CHAD

• SITUATION

No locust activity was reported during May.

• FORECAST

Scattered adults are likely to appear in areas of recent rainfall in the centre and northeast and breed on a small scale. There is a low risk that a few small swarms may arrive in the east from Arabia.

SENEGAL

• SITUATION

No locust activity was reported during April and 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, small-scale breeding occurred near a few agricultural areas in the central Sahara between Reggane (2643N/0010E) and In Salah (2712N/0229E) where solitarious and *transiens* hoppers of all instars were present mixed with immature solitarious and *transiens* adults and mature solitarious adults. Ground teams treated 16 ha. Isolated mature solitarious adults were seen near Illizi (2630N/0825E) in the east. No locusts were seen in the northwest near Bechar (3135N/0217W), in the central Sahara near Adrar (2753N/0017W) and in the southern Sahara west of Tamanrasset (2250N/0528E).

• FORECAST

Low numbers of locusts may persist near agricultural areas in the Central Sahara where small-scale breeding could continue. No significant developments are likely.

MOROCCO

• SITUATION

No surveys were carried out and no locusts were reported

in May.

• FORECAST

No significant developments are likely.

LIBYA

• SITUATION

No reports were received in May.

• FORECAST

No significant developments are likely.

TUNISIA

• SITUATION

No locust activity was reported during May.

• FORECAST

No significant developments are likely.

CENTRAL REGION

SUDAN

• SITUATION

During the last week of May, groups of mature adults appeared near irrigated schemes in the Nile Valley of River Nile and Northern states near Abu Hamed (1932N/3320E) and between Dongola (1910N/3027E) and Wadi Halfa (2147N/3122E). Late instar hoppers and a hopper group were present near Ed Debba (1803N/3057E) from egg-laying that occurred in mid-April.

• FORECAST

Small-scale breeding is likely to continue in parts of the Nile Valley between Berber and Wadi Halfa. There is a moderate to high risk of small immature swarms arriving from the Arabian Peninsula, initially in the Nile Valley and then in the summer breeding areas of North Darfur, North Kordofan and White Nile states. Breeding will commence with the onset of the summer rains.

ERITREA

• SITUATION

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

• FORECAST

No significant developments are likely.

ETHIOPIA

• SITUATION

No locusts were seen during surveys carried out in the east near Ayasha (1045N/4234E) and in the Afar region on 25–26 May.

• FORECAST

No significant developments are likely.

DJIBOUTI

• SITUATION

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

• FORECAST

No significant developments are likely.

SOMALIA

• SITUATION

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

• FORECAST

No significant developments are likely.

EGYPT

• SITUATION

During May, control operations against immature adult groups ended on the Red Sea coast near Abu Ramad (2224N/3624E) at mid-month after treating 2 940 ha; thereafter, only isolated and scattered immature solitarious adults remained. During the last week of the month, several medium density groups of immature and maturing solitarious and *transiens* adults appeared in farms along Lake Nasser near Abu Simbel (2219N/3138E), Tushka (2247N/3126E) and Garf Husein (2317N/3252E), in the New Valley of the Western Desert south of Baris (2448N/3035E), and in the Nile Valley north of Aswan (2405N/3256E). Ground teams treated 401 ha. These groups most likely originated from winter breeding on the Red Sea coast. Isolated third to fifth instar solitarious hoppers were present at one place from earlier breeding.

• FORECAST

Additional groups are likely to appear near farms in the Lake Nasser and Western Desert areas. These may be supplemented by a few small immature swarms arriving from the Arabian Peninsula. Some of the adults may remain near farms and breed, giving rise to small groups of hoppers, while other adults are likely to move south towards the summer breeding areas in central Sudan.

SAUDI ARABIA

• SITUATION

During May, a second generation of spring breeding occurred in the central interior between Riyadh (2439N/4642E) and Gassim (2621N/4358E) where mature adult groups and a few swarms laid eggs, and early instar hopper bands formed after hatching. First-generation breeding continued along the western edge of the Empty Quarter between Riyadh and Wadi Dawasir (2028N/4747E), along the eastern foothills of the Asir Mountains between Zalim (2248N/4210E) and Khaybar (2542N/3917E), north of Gassim near Hail (2731N/4141E) and Al Jawf (2948N/3952E), and in the northeast between Al Hofuf (2523N/4935E) and Hafar Al Batin (2821N/4556E). Hopper groups and bands of all instars, and groups of immature and mature adults were present in most of these areas. Immature and mature swarms were seen near Wadi Dawasir and between Riyadh and Gassim throughout the month, some of which may have arrived from Yemen. On

the northern Red Sea coast, groups of hopper and immature adults persisted near Umm Lajj (2501N/3716E). Control operations treated 74 237 ha during May of which 3 700 ha were by air.

• FORECAST

As conditions dry out, spring breeding will end in the interior. Any infestations that are not detected or cannot be treated will concentrate further to form groups and a few small immature swarms. The majority of the swarms are expected to move southwest to the summer breeding areas in Sudan, but a few swarms may move south to the interior of Yemen and east through the Persian Gulf to the Indo-Pakistan summer breeding areas.

YEMEN

• SITUATION

In early May, immature and mature groups and small swarms began appearing from the east in the central highlands between Sana'a (1521N/4412E) and Dhamar (1433N/4424E) where they were reported throughout the month. In addition, a few swarms were seen along the eastern foothills between Bayhan (1452N/4545E) and Al Hazm (1610N/4446E) and at least one swarm was reported in the western foothills east of Hodeidah (1450N/4258E). In the east, scattered immature and mature solitarious and *transiens* adults were present in Wadi Hadhramaut and on the plateau north of Sayun (1559N/4844E) to Thamud (1717N/4955E) and Remah (1727N/5034E) as well as one immature group on the plateau. Control operations were not possible.

• FORECAST

A portion of the swarms are likely to move south towards the Aden coast and then migrate to the Indo-Pakistan summer breeding areas while some swarms may remain in parts of the highlands, the Red Sea coast and the edges of Ramlat Sabatyn to breed in areas of recent rains, giving rise to small hopper groups and bands.

OMAN

• SITUATION

During May, mature adult groups were laying south of Sur (2234N/5930E) in Sharqiyah during the first week. Small-scale breeding was in progress on the Batinah coast near Jamma (2333N/5733E) where second to fifth instar solitarious hoppers mixed with immature solitarious adults were present as a result of egg-laying from mid-April to mid-May. Solitarious hoppers and mature solitarious adults were seen at one place on the Musandam Peninsula. No locusts were seen elsewhere in the northern interior near Buraimi (2415N/5547E), Nizwa (2255N/5731E) and Adam (2223N/5731E) and in the south near Shehan (1746N/5229E) and the Yemen border.

• FORECAST

A few small groups of hoppers and adults may form in Sharqiyah while elsewhere locust numbers are expected to

remain low. There is a low risk that a few small immature swarms may be temporarily seen along the eastern coast as they migrate from Yemen to the Indo-Pakistan summer breeding areas.

KUWAIT

• SITUATION

On 27 April, late instar hopper groups were seen marching from the border of Saudi Arabia to the Al-Wafra (2832N/4759E) agricultural area. Several more hopper groups and an increasing number of fledglings were subsequently reported from the same area, supplemented by the arrival of immature adult groups during the second week of May. On about the 20th, immature adult groups were also seen in several places in the Al Salmi region about 100 km to the west near the Iraq/Saudi Arabia border. Ground teams treated 15 653 ha from 28 April to 30 May.

• FORECAST

There is a moderate risk that groups and a few small immature swarms could arrive from adjacent areas in Saudi Arabia and continue to the Indo-Pakistan summer breeding areas.

JORDAN

• SITUATION

During a brief period of unusual southerly winds, an immature swarm arrived in the south near Al Jafr (3019N/3610E) on 4 May and a second immature swarm flew northwest towards Tafilah (3050N/3537E) on the 5th where it dispersed to two areas to the south and southeast. Ground teams treated 900 ha near Al Jafr while aerial operations treated 2 000 ha near Tafilah.

• FORECAST

No significant developments are likely.

BAHRAIN, IRAQ, ISRAEL, KENYA, LEBANON, PALESTINE, QATAR, SOUTH SUDAN, SYRIA, TANZANIA, TURKEY, UAE AND UGANDA

• FORECAST

No significant developments are likely.

EASTERN REGION

IRAN

• SITUATION

During May, a second generation of breeding occurred in the Jaz Murian Basin of the interior in South Kerman and Sistan-Baluchistan provinces and in a few coastal areas of Hormozgan province near Chah Deraz (2657N/5526E) and Jask (2540N/5746E) where adult groups were laying. Hatching and the formation of hopper groups and bands started from the second week onwards. In the meantime, first generation hoppers, adults, groups and bands matured in these provinces as well as parts of Khuzestan, Bushehr and Fars provinces in the southwest. Control operations

treated 346 180 ha during May of which 33 660 ha were by air.

• FORECAST

As conditions continue to dry out, breeding will end, and the remaining hoppers will fledge and form immature groups and small swarms. Infestations that are not detected or cannot be treated will concentrate further to form groups and a few small immature swarms that will move east to the Indo-Pakistan summer breeding areas. There is a moderate to high risk that this will be supplemented by a few small immature swarms arriving from the Arabian Peninsula and moving rapidly east along the southern coast to Pakistan and India.

PAKISTAN

• SITUATION

During May, breeding continued near the Baluchistan coast between Turbat (2600N/6303E) and Gwadar (2508N/6219E), near Uthal (2548N/6637E) and in the interior near Kharan (2832N/6526E) where solitary and gregarious hoppers and hopper groups of all instars mixed with scattered mature adults were present. A few mature adult groups were seen on the coast and a limited second generation of breeding commenced in the Shooli Valley south of Turbat where scattered adults were seen laying at mid-month. Ground teams treated 3 025 ha on 1–27 May. In the summer breeding areas, scattered solitary and gregarious adults appeared during the last week of the month near the Indian border southeast of Rahimyar Khan (2822N/7020E) and started to lay eggs.

• FORECAST

As vegetation dries out, breeding will come to an end in Baluchistan and remaining locusts will form small groups that will move to summer breeding areas of Cholistan, Nara and Tharparkar where breeding will cause locust numbers to increase. This is likely to be supplemented by additional groups and perhaps a few small swarms arriving from spring breeding areas of Iran and the Arabian Peninsula.

INDIA

• SITUATION

During the first fortnight of May, no locusts were seen in Rajasthan and Gujarat. On the 17th, the first solitary adults of the season were seen in West Rajasthan near Jaisalmer (2652N/7055E). On the 21st, a group of mature *transiens* adults first appeared west of Phalodi (2706N/7222E) and laid eggs. Several more mature groups and a few small swarms arrived during the remainder of the month between Sam (2649N/7030E) and Phalodi where they were copulating. Scattered mature solitary adults were seen in a few places between Bikaner (2801N/7322E) and the Pakistan border. Ground teams treated 1 560 ha on 22–31 May.

• FORECAST

Locust numbers will increase in West Rajasthan as hatching

starts about the second week of June. Some hopper groups and perhaps a few small bands may form. Breeding will extend to other areas with the onset of the monsoon rains. This is likely to be supplemented by additional groups and perhaps a few small swarms arriving from spring breeding areas in the region and the Arabian Peninsula, maturing and laying eggs.

AFGHANISTAN

• SITUATION

No locusts were seen during surveys carried out in the southern provinces up to 23 May.

• FORECAST

There is a low risk that a few small groups or swarms could pass through southern provinces on their way to the Indo-Pakistan summer breeding areas.



Announcements

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 bulletins. 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

Calm (green). Countries should report at least once/month and send RAMSES data with a brief interpretation.

Caution (yellow), threat (orange) and danger (red).

During 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.

Bulletins. Affected countries are encouraged to prepare decadal and monthly bulletins summarizing the situation.

Reporting. All information should be sent by e-mail to the FAO/ECLC Desert Locust Information Service (eclo@fao.org and faodlislocust@gmail.com). Reports received by the first two days of the new month will be included in the FAO Desert Locust Bulletin; otherwise, they will not appear until the following month. Reports should be sent even if no locusts were found or if no surveys were conducted.

Calendar

The following activities are scheduled:

- **CRC/SWAC.** 11th Interregional workshop for Desert Locust Information Officers, Addis Ababa, Ethiopia (24–28 June)
- **CLCPRO.** 14th Executive committee meeting, Agadir, Morocco (24–28 June)

- **DLCC.** 41st Session, Addis Ababa, Ethiopia (10–13 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

Moderate

- 21–50 mm

Heavy

- more than 50 mm

Summer rains and breeding areas

- July–September/October
- Sahel of West Africa, Sudan, western Eritrea; Indo-Pakistan border

Winter rains and breeding areas

- October–January/February
- Red Sea and Gulf of Aden coasts; northwest Mauritania, Western Sahara

Spring rains and breeding areas

- February–June/July
- Northwest Africa, Arabian Peninsula interior, Somali plateau, Iran/Pakistan border

Other reporting terms

Breeding

- The process of reproduction from copulation to fledging

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

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, Lebanon, Palestine, Qatar, South Sudan, Syria, Tanzania, Turkey, UAE and Uganda

Eastern

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



Useful tools and resources

FAO Locust Watch. Information, maps, activities, publications, archives, FAQs, links
<http://www.fao.org/ag/locusts>

FAO Desert Locust regional commissions. Western Region (CLCPRO), Central Region (CRC), South-West Asia (SWAC)
<http://www.fao.org/ag/locusts>

IRI RFE. Rainfall estimates every day, decade and month
http://iridl.ldeo.columbia.edu/maproom/.Food_Security/.Locusts/index.html

IRI Greenness maps. Dynamic maps of green vegetation evolution every decade
http://iridl.ldeo.columbia.edu/maproom/Food_Security/Locusts/Regional/greenness.html

NASA WORLDVIEW. Satellite imagery in real time
<https://worldview.earthdata.nasa.gov>

Windy. Real time rainfall, winds and temperatures for locust migration
<http://www.windy.com>

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>

RAMSESV4 and eLocust3. Installer, updates, videos, inventory and support
<https://sites.google.com/site/rv4elocust3updates/home>

FAOLocust Twitter. The very latest updates posted as tweets
<http://www.twitter.com/faolocust>

FAOLocust Facebook. Information exchange using social media
<http://www.facebook.com/faolocust>

FAOLocust Slideshare. Locust presentations and photos
<http://www.slideshare.net/faolocust>

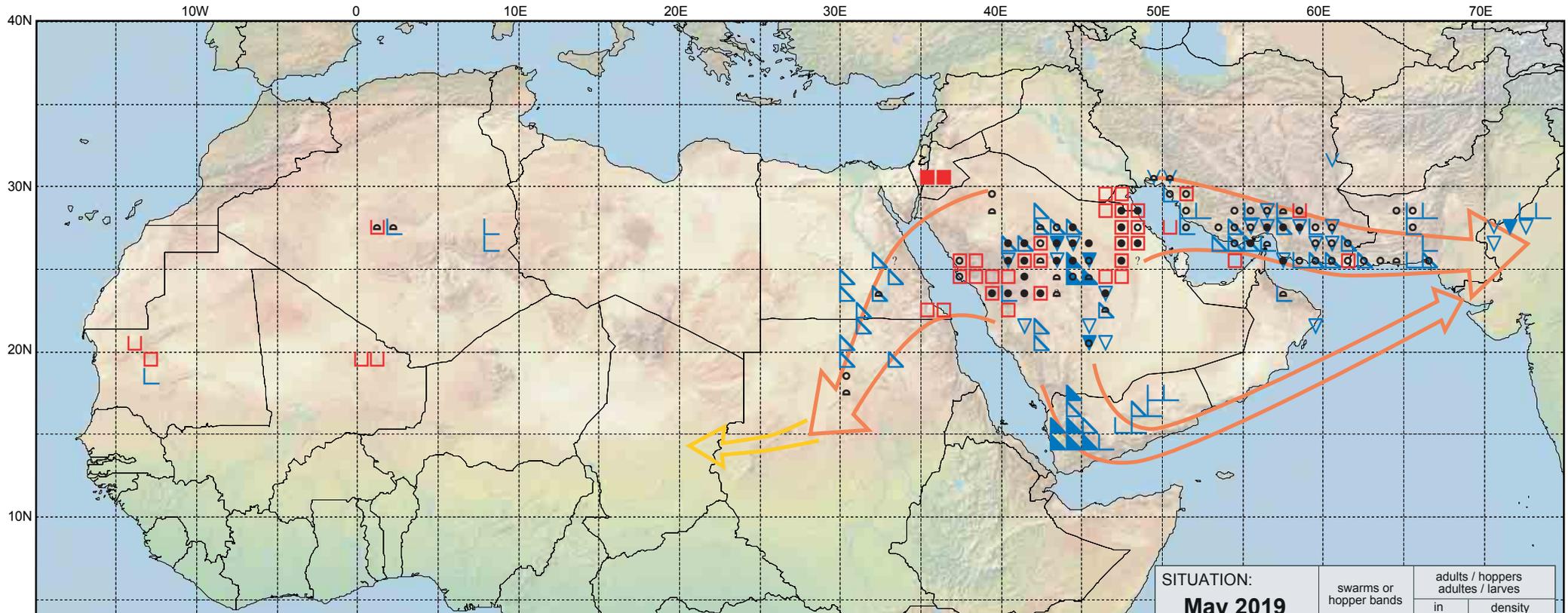
eLERT. Online database of resources and technical specifications for locust emergencies
<http://sites.google.com/site/elertsite>



Desert Locust Summary

Criquet pèlerin - Situation résumée

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FORECAST TO: PREVISION AU: 15.7.19	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 2019 mai 2019	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)			