Food and Agriculture Organization of the United Nations

No. 497 5 MARCH 2020

Desert Locust Bulletin

General situation during February 2020
Forecast until mid-April 2020

WESTERN REGION: CALM

SITUATION. Scattered locusts in **Morocco**, **Algeria** and **Libya**.

FORECAST. Limited breeding possible in **Mauritania**, **Morocco**, **Algeria** and **Libya**.

CENTRAL REGION: THREAT

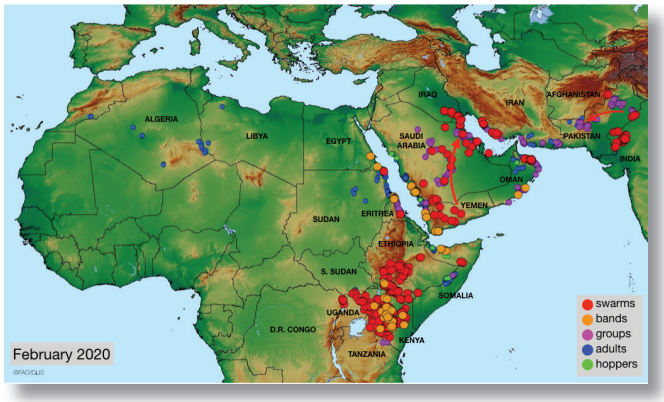
SITUATION. Control operations in **Saudi Arabia** (22 645 ha), **Eritrea**, (12 153 ha), **Sudan** (5 505 ha), **Oman** (2 100 ha), **Yemen** (1 475 ha), and **Egypt** (154 ha). Immature swarms invaded **Iraq** (69 ha), **Kuwait**, **Bahrain** (3 ha), **Qatar** and **UAE** (45 ha). Control operations against mature swarms, hopper bands and new-generation immature swarms in **Kenya** (15 000+ ha), **Ethiopia** (41 050 ha) and **Somalia** (1 053 ha).

FORECAST. Hatching, hopper bands and new-generation immature swarm formation in **Ethiopia**, **Somalia** and **Kenya**. Some immature swarms may move northwards to **South Sudan**, Ethiopia and Somalia while others remain, mature and breed. Breeding is likely in **Oman** and in the interior of **Saudi Arabia** and **Yemen**.

EASTERN REGION: THREAT

SITUATION. Swarms arrived in southwest **Iran** (2 617 ha treated) and laid eggs. Breeding started in Baluchistan and Punjab, **Pakistan** (8 299 ha treated). Control continued against residual groups and swarms in **India** (11 420 ha).

FORECAST. Hatching and band formation in southern **Iran**, southwest and Punjab, **Pakistan** and **India**.



Widespread hatching and band formation in Horn of Africa

The current situation is complex and extremely alarming as locusts have spread within the Horn of Africa and into East Africa, reaching southern Kenya and northern Tanzania, northeast Uganda, southeast South Sudan, and northeast D.R. Congo. However, the worst affected countries are Kenya, Ethiopia and Somalia where there is an unprecedented threat to food security and livelihoods. Aerial and ground control operations continued against widespread swarm laying, hatchlings and numerous hopper bands throughout northern and central Kenya and southern Ethiopia. New swarms formed in northern Somalia at mid-month and in Kenya at the end of February. An increasing number of hopper bands and immature swarms will form in the Horn of Africa during March and April. Some swarms may move northwards while others are likely to remain, mature and eventually lay eggs, causing another generation of breeding. Elsewhere, several swarms were present in Yemen and some moved northwards in Saudi Arabia and passed through the Gulf countries to southern Iran where they quickly matured and laid eggs that will cause hopper bands to form. Remnant summer-bred swarms were present in Rajasthan, India and were laying in parts of Punjab, Pakistan. A swarm was seen in eastern Afghanistan and adult groups reached Baluchistan in southwest Pakistan where spring breeding will continue.

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 February 2020

Very little rain fell during the month. Breeding conditions were favourable in the Horn of Africa, southern Iran and along parts of the Red Sea coastal plains.

WESTERN REGION

No significant rain fell in the region except for a few showers in parts of central and southern Algeria. Consequently, annual vegetation was dry in most areas except along the Draa Valley south of the Atlas Mountains in Morocco, in southwest Libya near Ghat, and in parts of northern Mali where it was sufficient for locust survival. Ecological conditions were favourable near irrigated perimeters in the central and southern Sahara of Algeria near Adrar and Tamanrasset.

CENTRAL REGION

Very little rain fell except in southwest Ethiopia for a few days in early and late February. Very little rain fell in the winter breeding areas along both sides of the Red Sea and Gulf of Aden. Consequently, vegetation began to dry out at the end of the month in the winter breeding areas except on the southern coast of Sudan, the northern and central coast of Eritrea, the Tihama of Yemen, and the northwest coast of Somalia. In the spring breeding areas of the Arabian Peninsula, vegetation was green in the interior of Saudi Arabia between Wadi Dawasir and Riyadh, in parts of the interior of Yemen, and in the interior and coastal areas of northern Oman. In the Horn of Africa, breeding conditions remained favourable in southern Ethiopia and the Rift Valley, in northern and central Kenya, and in parts of Somalia.

EASTERN REGION

Very little rain fell except on the southwest coast of Iran for a few days during the last decade of the month and in Punjab, Pakistan in the last days of February. Nevertheless, breeding conditions were favourable along the entire coast of southern Iran and in the Jaz Murian Basin of the southeastern interior. Breeding conditions improved in coastal and interior areas of Baluchistan in southwest Pakistan as temperatures warmed up. Dry conditions persisted along both sides of the Indo-Pakistan border.

Area Treated

Control operations treated more than 123 000 ha in February.

Bahrain	3 ha
Egypt	154 ha
Eritrea	12 153 ha
Ethiopia	41 050 ha
India	11 420 ha
Iran	2 617 ha
Iraq	69 ha
Kenya	15 000+ ha
Oman	2 100 ha
Pakistan	8 299 ha
Saudi Arabia	22 645 ha
Somalia	1 053 ha
Sudan	5 050 ha
UAE	45 ha
Uganda	(no details)
Yemen	1 475 ha

Desert Locust Situation and Forecast

WESTERN REGION

Mauritania

• **SITUATION**

No reports were received during February.

• **FORECAST**

Low numbers of locusts may be present in the northwest where limited breeding could occur in areas that are favourable.

Mali

• **SITUATION**

No locusts were reported during February.

• **FORECAST**

Low numbers of adults are likely to persist in a few places of the Adrar des Iforas, Tilemsi Valley and Timetrine.

Niger

• **SITUATION**

Late reports indicated no locusts were reported in December and January. No locusts were reported during February.

• **FORECAST**

Low numbers of locusts may be present and are likely to persist in parts of the Air Mountains.

Chad

• **SITUATION**

No locusts were reported during February.

• **FORECAST**

No significant developments are likely.

Burkina Faso

• **SITUATION**

No reports were received during February.

• **FORECAST**

No significant developments are likely.

Senegal

• **SITUATION**

No locusts were reported during February.

• **FORECAST**

No significant developments are likely.

Benin, 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 February, scattered immature solitarious adults persisted in the southern Sahara west of Tamanrasset (2250N/0528E) and were seen in the central Sahara in the Adrar (2753N/0017W) valley and between Reggane (2643N/0010E) and In Salah (2712N/0229E).

• **FORECAST**

Low numbers of locusts are likely to persist in agricultural areas in the central Sahara and along the edge of the Hoggar Mountains near Tamanrasset where they may be also present near Illizi and Djanet. Limited breeding is likely to occur in these areas.

Morocco

• **SITUATION**

During February, no locusts were seen in the Western Sahara from south of Smara (2644N/1140W) to Zag (2800N/0920W) and along the Draa Valley from Foum Zguid (3005N/0652W) to Erfoud (3128N/0410W) except for isolated mature solitarious adults near Foum Zguid.

• **FORECAST**

Low numbers of adults may appear along the southern side of the Atlas Mountains and breed on a small scale in areas that receive rainfall.

Libya

• **SITUATION**

During February, isolated solitarious adults were maturing in the southwest near Ghat (2459N/1011E) and in the northwest near Mizda (3127N/1259E).

• **FORECAST**

Small-scale breeding is likely to occur in the southwest near Ghat, causing locust numbers to increase slightly but remain below threatening levels.

Tunisia

• **SITUATION**

No locusts were reported during February.

• **FORECAST**

No significant developments are likely.

CENTRAL REGION

Sudan

• **SITUATION**

During February, hopper bands were present on the southern coastal plains of the Red Sea between Aqiq (1813/N3811E) and the Eritrean border. A few mature swarms were reported near Aiterba (1753N/3819E) and Karora (1745N/3820E) shortly after mid-month. In the north, a few late instar hopper groups and immature adult groups persisted near Oseif (2146N/3651E) at the beginning of the month and two immature swarms were seen nearby by mid-month. Scattered immature and mature solitarious adults were present throughout the coastal plains and in a few places along Wadi Oko/Diib in the northeast. In the interior, scattered immature and mature solitarious adults were present in the Nile Valley between Ed Damer (1734N/3358E) and Merowe (1830N/3149E). Control operations treated 5 050 ha of which 4 610 ha were by air.

• **FORECAST**

A few adult groups and perhaps small swarms will form on the southern coast, which are likely to move to the Nile Valley as vegetation dries out where breeding will occur with possible hatching and band formation starting from late March onwards.

Eritrea

• **SITUATION**

During February, second-generation hopper groups fledged and formed immature adult groups on the Red Sea coastal plains from Massawa (1537N/3928E) to the Sudan border. On the 26th, a mature swarm was seen laying on the coast southwest of Massawa. Ground control teams treated 12 153 ha.

• **FORECAST**

A limited third generation of breeding could occur in areas that remain favourable on the central Red Sea coast; otherwise, a northwards movement along the coast can be expected as conditions dry out. There remains a risk that a few swarms could appear from Ethiopia and Yemen at times.

Ethiopia

• **SITUATION**

During February, numerous immature swarms matured

and laid eggs in the south from the Kenya border north to Nazreth (0831N/3915E) in the northern Rift Valley. Most of the infestations were concentrated in the districts of South Omo in SNNPR region and Borena in Oromiya region, while Bale, Arsi and east Shewa of Oromiya and Konso, Derashi, North Omo, Keficho, Jima, K.a.t, and Gurage in SNNPR as well as near Harar (0919N/4206E) were also affected. By the end of the month, hatching occurred and first instar hoppers were forming groups and bands in South Omo and Borena. Undetected breeding may have commenced earlier in other areas. Aerial control operations treated 41 050 ha.

• **FORECAST**

Widespread hatching and band formation are likely to occur in Oromiya and SNNP regions, where a new generation of swarms could start to form in April. Undetected breeding may be in progress in other areas of the east and south. This will be supplemented by cross-border movements of immature swarms along the Somali and Kenyan border. Southerly winds could carry swarms further north into central and northern areas of the country.

Djibouti

• **SITUATION**

No surveys were carried out and no locusts were reported during February. There were reports of locust on the north coast near Obock (1154N/4317E).

• **FORECAST**

There is a low risk that a few groups and swarms may appear in the south and east from adjacent areas of eastern Ethiopia and northwest Somalia.

Somalia

• **SITUATION**

During February, immature swarms formed in the northeast near Garowe (0824N/4829E) at the beginning of the month. In central areas, scattered hoppers, adults and immature adult groups were present between Galkayo (0646N/4725E) and Belet Weyne (0444N/4512E). In the northwest, breeding occurred on the northwest coast between Lughaye (1041N/4356E) and Bulhar (1023N/4425E), on the plateau near Burao (0931N/4533E), and hopper bands formed near Berbera (1028N/4502E) and on the escarpment north of Burao where immature and mature adult groups were also present as well as some mature groups that were laying. At least 1 000 ha were treated by ground teams.

• **FORECAST**

An increasing number of immature swarms are likely to form in parts of the country, some of which could move further southwards while others are likely to remain in areas that remain favourable and mature. Another generation of breeding is expected to occur on the northwest plateau, giving rise to further hopper bands.

Kenya

• **SITUATION**

During February, numerous swarms matured and were present in 21 counties. At least one swarm reached the Tanzanian border near Mt. Kilimanjaro while other swarms moved west to Uganda and northwest to Lake Turkana. Widespread laying and hatching occurred primarily in the northern and some central counties, causing numerous hopper bands to form. By the end of the month, first-generation immature swarms were starting to form from early undetected breeding in January. In addition, recently formed immature swarms arrived in the northeast from adjacent areas of Somalia. Ground and aerial control operations treated at least 15 000 ha.

• **FORECAST**

Hopper bands will continue to form during March and April, giving rise to an increasing number of first-generation swarms that will mature and could be ready for a second generation of breeding from early April onwards. Most of the breeding will remain concentrated in northern counties of Turkana, Marsabit, Samburu, Isiolo, Wajir and Mandera.

Tanzania

• **SITUATION**

On 9 February, a group of mature gregarious adults from adjacent areas of southern Kenya arrived in the north and dispersed towards Arusa (0322S/3642E) and Moshi (0321S/3720E).

• **FORECAST**

The risk of any additional swarms arriving in the north is very low due to prevailing southerly winds.

South Sudan

• **SITUATION**

On 17 February, a mature swarm coming from northeast Uganda arrived in Magwi county of southwest East Equatoria where it invaded several villages between the Uganda border and Magwi (0408N/3218E). Remnants of this swarm was seen several days later. On the 23rd, a mature swarm crossed the border from Uganda to Loboni (0347N/3245E) where it dispersed and was reported during the following days.

• **FORECAST**

From mid-March onwards, a few new-generation immature swarms could arrive from western Kenya in East Equatoria and continue towards the north and northwest.

Uganda

• **SITUATION**

On 9 February, a mature swarm arrived in the northeastern district of Amudat near Moroto (0231N/3439E) from adjacent areas of western Kenya. Several more mature swarms subsequently entered and spread to some 22 districts in the northeast from Bukwa (0117N/3444E) and Soroti (0143N/3336E) northwards to Lokung (0335N/3242E) and

Apoka (0344N/3344E) near the South Sudan border. Many of the swarms tried to lay eggs. Ground control operations were carried out, but more details are awaited.

• **FORECAST**

Successful egg-laying may have occurred in a few places of the northeast, which would give rise to hopper bands during the forecast period. From mid-March onwards, a few new-generation immature swarms could arrive from western Kenya in the northeast and continue northwards.

D.R. Congo

• **SITUATION**

On 18 February, a few mature swarmlets from adjacent areas of northwest Uganda appeared during strong easterly winds in Ituri province near Aru (0251N/3050E) where they dispersed in several places near the border up to the 25th. No damage was reported.

• **FORECAST**

No significant developments are likely.

Egypt

• **SITUATION**

During February, small-scale breeding continued on the Red Sea coast in the southeast near El Sheikh El Shazly (2412N/3438E) where a few early instar hopper groups and bands were present, and between Shalatyn (2308N/3535E) and the Sudanese border where a hopper band fledged and formed an immature adult group while scattered solitarious hoppers and immature and mature adults were seen nearby. No locusts were present near Lake Nasser in the Tushka (2247N/3126E) and Abu Simbel (2219N/3138E) areas. Ground teams treated 154 ha.

• **FORECAST**

Locust numbers are likely to decline as breeding comes to an end and vegetation dries out. Nevertheless, scattered hoppers and adults may persist in the few areas that remain green.

Saudi Arabia

• **SITUATION**

During February, a few first-generation mature adult groups persisted on the central Red Sea coast near Qunfidah (1909N/4107E) where an increasing number of second-generation hopper bands, fledglings and immature groups and swarms were forming in the first half of the month while some hopper bands persisted until the end of the month. In the interior, immature groups and swarms probably from adjacent areas of Yemen first appeared in the south near Najran (1729N/4408E) and moved northwards on strong persistent southerly winds, reaching Al Hofuf (2523N/4935E) on the 16th, Hafar Al Batin (2821N/4556E) on the 18th, and probably continuing into southern Iraq and the Persian Gulf. Control operations were undertaken in the interior and, by the end of the month, declined on the Red Sea coast. Ground teams treated 22 645 ha.

• **FORECAST**

If conditions remain favourable, breeding could occur along parts of the Red Sea coast; otherwise, locust numbers will decline. Any swarms in the interior will mature and breed between Wadi Dawasir and Riyadh, and in the Gassim and Hail areas, which could give rise to hopper groups and bands.

Yemen

• **SITUATION**

During February, late instar hopper bands and groups of maturing adults were present on the northern Red Sea coast between Al Zuhrah (1541N/4300E) and Suq Abs (1600N/4312E), and northwest of Bajil (1458N/4314E). Another generation of hatching started during the last week near Al Zuhrah, giving rise to first instar hopper bands. Breeding was also in progress on the southern coastal plains near Lahij (1303N/4453E) where early and late instar hopper bands and immature adult groups were present. Immature swarms appeared during the first week in the interior near Ataq (1435N/4649E), Bayhan (1452N/4545E) and north of Al Hazm (1610N/4446E) as well as in the central highlands near Sana'a (1521N/4412E). Immature swarms were also seen in Wadi Hadhramaut near Al Abr (1608N/4714E) and Hawra (1542N/4817E) at mid-month and a mature swarm was seen south of Ataq on the 21st. Some of these swarms probably moved northwards on strong, persistent southerly winds. Ground teams treated 1 475 ha.

• **FORECAST**

Breeding will continue on the Red Sea and Gulf of Aden coasts, causing a further increase in locust numbers that will give rise to hopper groups, bands, adult groups and swarms. Breeding will also occur in the interior between Marib and Hadhramaut in areas that receive rainfall.

Oman

• **SITUATION**

During February, several immature groups and swarms were present on the northeast coast between Sur (2234N/5930E) and Muscat (2337N/5833E) in the first week. Thereafter, mature groups and swarms laid eggs on the coast near Muscat and Jamma (2333N/5733E), giving rise to early instar hopper groups. First to third instar hopper groups and a few bands were present along the central coast south of Duqm (1939N/5743E) where laying occurred last month while a late instar hopper group were seen on the coast south of Sur. Scattered immature and mature solitarious adults were present along parts of the eastern coast and in the northern interior between Adam (2223N/5731E) and Buraimi (2415N/5547E). Ground teams treated 2 100 ha.

• **FORECAST**

Hoppers are likely to continue to form groups and a few bands on the northern and eastern coasts where fledging

will start in early March and new immature groups and perhaps a few small swarms could form. Another generation of breeding could occur in areas that remain favourable.

Iraq

• **SITUATION**

On 20 February, there were reports of immature swarms in the southern province of Al Muthanna that were moving towards Kuwait followed by additional reports between Basrah (3031N/4749E) and Nasiriyah (3103N/4616E) up to the 25th. Ground teams treated 69 ha.

• **FORECAST**

A few swarms may appear in Al Muthanna province during periods of southerly winds.

Kuwait

• **SITUATION**

On 20 February, immature swarms appeared in northern Kuwait near Safwan (3004N/4741E) from adjacent areas of southeast Iraq and rapidly passed Abdali farms (3002N/4749E) and Failaka Island (2926N/4816E) to reach Al Wafrah farms (2834N/4804E). By the following day, only an immature adult group remained at Al Wafrah.

• **FORECAST**

A few swarms may appear during periods of southerly winds.

Bahrain

• **SITUATION**

On 20 February, an immature swarm appeared near Manama (2610N/5032E) where it split into several smaller groups that were seen nearby up to the 25th. No locusts were seen thereafter. Ground teams treated 3.4 ha.

• **FORECAST**

A few swarms may appear during periods of southerly winds.

Qatar

• **SITUATION**

On 20 February, an immature swarm appeared near Doha (2517N/5131E). Reports of locusts continued until the 22nd.

• **FORECAST**

A few swarms may appear during periods of southerly winds.

UAE

• **SITUATION**

On 23 February, groups of immature adults at densities up to 10 adults/m^2 appeared on Delma Island (2429N/5217E) off the coast of western UAE near Qatar. Ground teams treated 45 ha.

• **FORECAST**

A few swarms may appear during periods of southwesterly winds.

Israel, Jordan, Lebanon, Palestine, Syria, and Turkey

• **FORECAST**

No significant developments are likely.

EASTERN REGION

Iran

• **SITUATION**

During February, limited breeding occurred on the southeast coast in Hormozgan province where first to thrid instar *transiens* and gregarious hoppers and a few groups were present between Minab (2708N/5705E) and Jask (2540N/5746E). Scattered mature solitarious adults were present along the southeast coast to Zarabad (2534N/5923E), in the Jaz Murian Basin near Sowlan (2710N/5833E), and near the Pakistani border and Pishin (2605N/6145E). A mature group was laying northeast of Zarabad. On 23-29th, there were 22 reports of moderate to high-density immature swarms appearing in coastal and subcoastal areas of the southwest in Khuzestan, Bushehr, southern Fars and western Hormozgan provinces during strong, persistent southerly winds. Within four days, most of the swarms had matured and laid eggs. Ground teams treated 2 617 ha.

• **FORECAST**

Hatching and band formation will occur along the coast and subcoastal areas of the southwest that is expected to cause a significant increase in locust numbers. Breeding will continue along the southeast coast and in the Jaz Murian Basin of the interior, and hopper groups and perhaps small bands could form in areas that received heavy rains in January.

Pakistan

• **SITUATION**

During February, mature adult groups and swarmlets were seen copulating in Okara district of Punjab and Dera Ismail Khan and Lucky Marwat districts of Khyber Pakhtunkhwa. An increasing number of adult groups arrived in Baluchistan from the Indus Valley and laid eggs in the northern interior between Khuzdar (2749N/6639E) and Dalbandin (2856N/6430E) and in the southwest near Turbat (2600N/6303E). Hatching occurred near Kharan (2832N/6526E) and Turbat, and a few early instar hopper groups had formed. Ground teams treated 8 299 ha.

• **FORECAST**

Increased hatching in coastal and interior areas of Baluchistan will cause hopper groups and bands to form. The first generation of spring-bred immature groups and swarms are likely to start to form by early April, depending on temperatures. Limited hatching and band formation will occur in Punjab.

India

• **SITUATION**

During February, residual summer-bred swarms were maturing near the Pakistan border in Rajasthan north of Jaisalmer (2652N/7055E) and northwest of Suratgarh (2919N/7354E) and in southwest Punjab as well in central Rajasthan between Barmer (2543N/7125E) and Phalodi (2706N/7222E). Ground teams treated 11 420 ha.

• **FORECAST**

Residual swarms are likely to persist in Rajasthan. Breeding could occur in the north near the Punjab border, giving rise to hopper bands.

Afghanistan

• **SITUATION**

Three swarms reportedly arrived in Khost province from adjacent areas of northwest Pakistan on about 21 February.

• **FORECAST**

There is a low to moderate risk that a few groups and small swarms could appear in southern provinces and perhaps breed on a limited scale in favourable 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 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.

Desert Locust upsurge and response

On 17 January, the Director-General of FAO activated the L3 protocols, the highest emergency level in the United Nations system, in FAO to allow fast-tracking an effective response to the upsurge in the Horn of Africa. There is a new dashboard that shows current progress (http://www.fao.org/locusts/response-overview-dashboard/en/). See www.fao.org/locusts for more details.

New eLocust3 tools

FAO has developed two new free tools for improving Desert Locust survey and control reporting: **eLocust3m** (https://play.google.com/store/apps/details?id=plantvillage.locustsurvey) and **DLwatch** (tiny.cc/DLwatch). Both apps can be used to collect and send basic data for importing into RAMSES GIS. eLocust3m is an Android app that can also send photos and includes an in-country chat function while DLwatch works offline on any device. A third tool under development, **eLocust3g**, is a GPS satellite communicator that can send basic data in real time on a standard form.

Calendar

The following activities are scheduled:

- **L3 SWAC.** High-level ministerial meeting for southwest Asia countries on the locust upsurge, Video conference (11 March)
- **L3 NENA.** Briefing session on the Desert Locust situation in the Near East and North Africa region, Video conference (March tbd)
- **CRC/SWAC/DLIS.** Central Region and SWAC Desert Locust Information Officer workshop, Cairo, Egypt (7–11 June)
- **CLCPRO/DLIS.** Western Region Desert Locust Information Officer workshop, Dakar, Senegal (6–10 July)

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 km^2
- band: 1–25 m^2

Small
- swarm: 1–10 km^2
- band: 25–2,500 m^2

Medium
- swarm: 10–100 km^2
- band: 2,500 m^2 – 10 ha

Large
- swarm: 100–500 km^2
- band: 10–50 ha

Very large
- swarm: 500+ km^2
- 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

eLocust3m. An Android mobile app for basic data recording & transmission; includes in-country chat
https://play.google.com/store/apps/details?id=plantvillage.locustsurvey

DLwatch. A web-form for basic data recording & transmission using any device with a web browser
http://tiny.cc/DLwatch

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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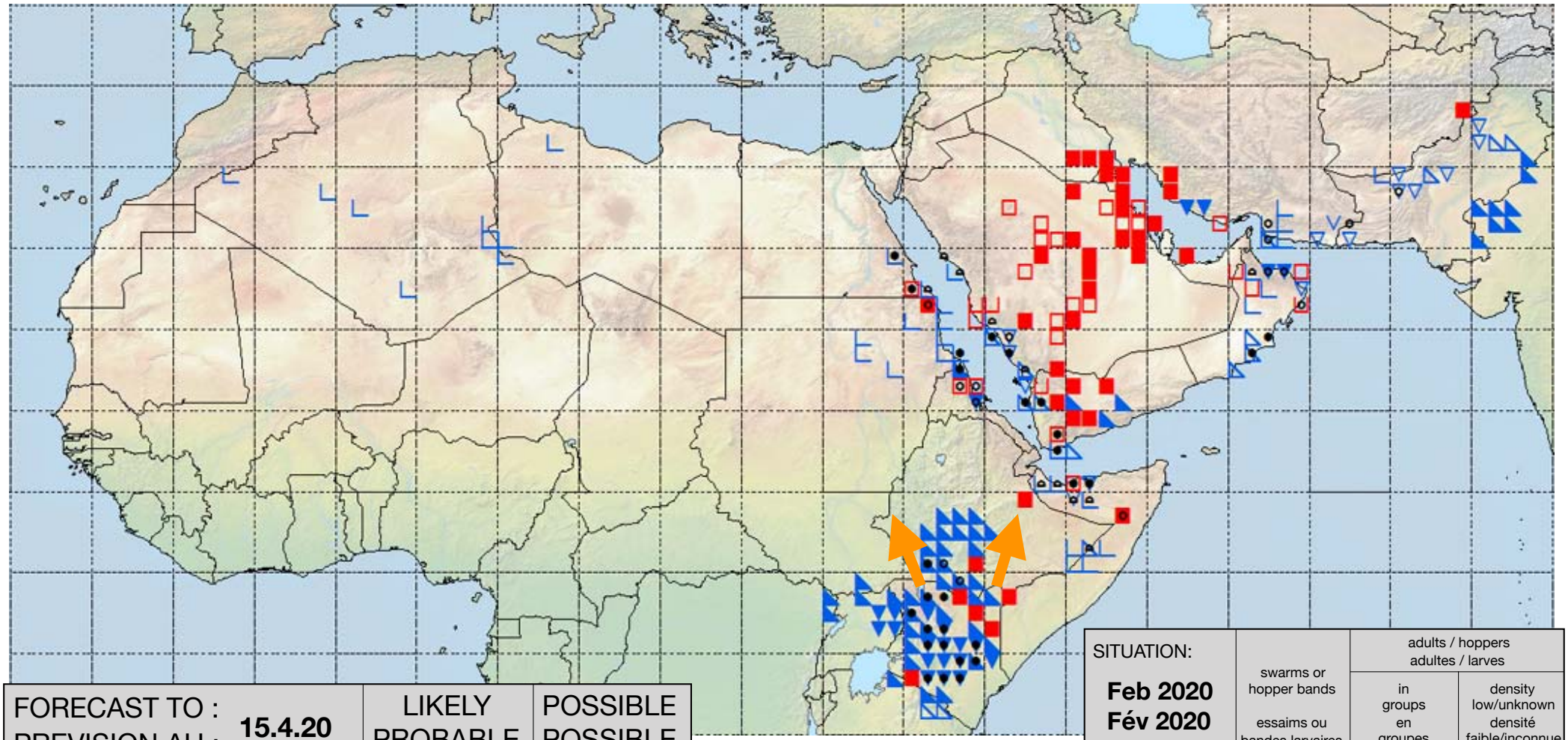

FORECAST TO : PREVISION AU : **15.4.20**	LIKELY PROBABLE	POSSIBLE POSSIBLE
favourable breeding conditions conditions favourables à la reproduction		
major swarm(s) essaim(s) important(s)		
minor swarms(s) essaim(s) limité(s)		
non swarming adults adults non essaimant		

SITUATION: **Feb 2020 Fév 2020**	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 partially mature adults adultes matures ou partiellement matures	◣	◺	L
adults, maturity unknown adultes, maturité inconnue	▲	△	∧
egg laying or eggs pontes ou œufs	▼	▽	∨
hoppers larves	●	○	⌓
hoppers & adults (combined example) larves et adultes (symboles combinés)	◘	◙	⊔