Food and Agriculture Organization of the United Nations

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Desert Locust Bulletin

General situation during September 2020
Forecast until mid-November 2020

WESTERN REGION: CALM

SITUATION. Isolated adults and small-scale breeding in **Chad**.

FORECAST. Locusts will decline in summer areas. Small-scale breeding in northwest **Mauritania**.

CENTRAL REGION: THREAT

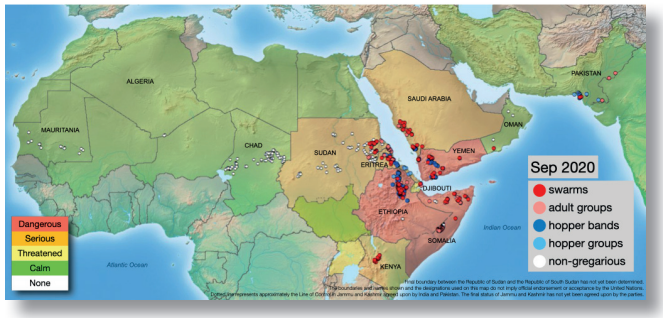
SITUATION. Widespread hatching, band and swarm formation in northeast **Ethiopia** (57 457 ha treated) and **Yemen** (5 828 ha); swarms arrive in southwest **Saudi Arabia** (13 745 ha) and lay on the Red Sea coast where hopper bands form; swarms, groups and breeding in **Eritrea** (5 013 ha); swarms arrive and lay in eastern **Sudan** (9 900 ha) and hopper bands begin to form; immature swarms prevail in northern **Somalia** (17 477 ha) and, to a lesser extent, in northwest **Kenya** (2 100 ha); a swarm seen in southern **Oman**.

FORECAST. More swarms will form in northeast **Ethiopia** that could move to the Highlands and the Ogaden where other swarms may migrate south from **Yemen** and northern **Somalia** towards **Kenya**. Breeding in northern Somalia and eastern Ethiopia. Locusts will increase further in the Yemen interior, eastern **Sudan**, and in the winter breeding areas along both sides of the Red Sea in **Eritrea**, Sudan, Yemen and Saudi Arabia, causing groups, bands and swarms to form.

EASTERN REGION: THREAT

SITUATION. Limited control operations against small second generation breeding in **Pakistan** (3 645 ha). No locusts in **India**.

FORECAST. The situation will return to normal with only small residual populations in Lasbela Valley, **Pakistan** and perhaps Rajasthan, **India**.



Swarm breeding in northeast Africa and Yemen

Even though ground and aerial control operations continued during September against swarms in the Horn of Africa and Yemen, the situation remains worrisome. Substantial hatching and hopper band formation caused numerous immature swarms to form in northeast Ethiopia. Hopper bands and swarms continued to form in Yemen, and some swarms started to move to the southern coast. An increasing number of swarms were reported in northern Somalia. As prevailing winds coming from the north become established over the Horn of Africa, there will be an increased threat of swarm migration from Yemen, northeast Ethiopia and northern Somalia south to eastern Ethiopia and central Somalia in October that could extend to northern Kenya in November. Other swarms were present in Eritrea, some of which moved to eastern Sudan and laid eggs. Additional swarms could arrive from Ethiopia. Winter breeding by swarms started several months earlier than normal along the Red Sea coast, which could allow an extra generation of breeding this season and cause substantial increases in locusts. Hopper bands formed on the coast in Saudi Arabia and Yemen, and groups in Eritrea. In southwest Asia, the upsurge ended, and only small residual infestations remained in Pakistan. In West Africa, small-scale breeding occurred in the northern Sahel, but locust numbers remained very low. Although locusts may concentrate and breed in northwest Mauritania in the coming months, no significant developments are expected.

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.

Telephone: +39 06 570 52420 (7 days/week, 24 hr)
E-mail: eclo@fao.org / faodlislocust@gmail.com
Internet: www.fao.org/ag/locusts
Facebook/Twitter: faolocust

Weather & Ecological Conditions in September 2020

Favourable ecological conditions prevailed in all summer breeding areas while early rains caused breeding conditions to be favourable along both sides of the southern Red Sea.

WESTERN REGION

The Inter-Tropical Convergence Zone (ITCZ) began its seasonal movement southwards at the beginning of September. Nevertheless, it remained some 150 km further north than usual over eastern Niger and Chad during the first decade. During the second decade, it retreated southwards and was located up to 175 km further south than usual, except in western Mauritania and eastern Chad, and reached southern Mauritania (Tamchekket and Nema), central Mali (Tombouctou), central Niger (Tassara and Tasker), and central Chad (Salal and Iriba). As a result, low to moderate rains fell in southern Mauritania, northeast Mali, and northern Niger while heavier rains fell in eastern Chad during the first decade. Thereafter, rainfall progressively decreased in all summer breeding areas except for Mauritania where moderate to heavy showers fell in the northwest during the second decade and good rains fell in central portions of the south during the third decade. Ecological conditions remained favourable for breeding throughout September; however, vegetation started to dry out in some areas of southeast Mauritania and southwest and northeast Chad after mid-month.

CENTRAL REGION

At the beginning of September, the Inter-Tropical Convergence Zone (ITCZ) began its seasonal movement southwards over the interior of Sudan but remained up to 150 km further north than usual during the first decades. Consequently, low to moderate rains fell in the summer breeding areas from Chad to Eritrea and the western side of the Red Sea Hills, and as far north as the Baiyuda Desert. Low to moderate rains continued in the interior of Yemen during the first decade. Good rains fell during the first two decades in the winter breeding areas along the Red Sea coast of Eritrea, Yemen and in Saudi Arabia as far north as Lith. In the Horn of Africa, heavy rains fell in northern Ethiopia while light to moderate rains fell at times in northeastern Ethiopia and northern Somalia. Heavier rains fell during the third decade on the plateau near Las Anod in northern Somalia near the Ethiopia border. Consequently, ecological conditions were favourable for breeding in nearly all these areas except for the plateau in northern Somalia where conditions were limited to just a few places in the northeast and northwest. In northwest Kenya, relatively low temperatures and green vegetation prevailed.

EASTERN REGION

Monsoon rainfall during September in West Rajasthan was 73% above normal. In general, this year's monsoon resulted in above-normal rains in the summer breeding areas along both sides of the Indo-Pakistan. Consequently, ecological conditions remained favourable in these areas during September. On the 28th, the monsoon began its seasonal withdrawal to the south from Rajasthan, which is about one week later than normal. Dry conditions prevailed elsewhere in the region.

Area Treated

Control operations treated 115 165 ha in September compared to 153 569 ha in August.

Eritrea	5 013 ha
Ethiopia	57 457 ha
Kenya	2 100 ha
Pakistan	3 645 ha
Saud Arabia	13 745 ha
Somalia	9 157 ha (August, revised)
	17 477 ha
Sudan	9 900 ha
Yemen	5 828 ha

Desert Locust Situation and Forecast

WESTERN REGION

MAURITANIA

• **SITUATION**

Although no reports were received during September, low numbers of mature solitarious adults were scattered in the south from Boutilimit (1732N/1441W) and Aguilal Faye (1827N/1444W) in the west to Nema (1636N/0715W) and Oualata (1717N/0701W) in the east. Small-scale breeding occurred in the southeast near Timbedra (1614N/0809W). Isolated mature solitarious adults were also present in Inchiri of the northwest.

• **FORECAST**

Locust numbers and breeding will decline in the south as rains end and vegetation dries out; however, solitarious adults may concentrate in the northwest where small-scale breeding could occur.

Mali

• **SITUATION**

During the first decade of September, no locusts were seen during surveys carried out in the west near Kayes (1426N/1128W) and in the centre north of Mopti (1430N/0415W).

• **FORECAST**

Small-scale breeding is likely to be in progress but is expected to decline as conditions dry out in areas of recent rainfall in Tamesna, the Adrar des Iforas, Tilemsi Valley, and Timetrine. Consequently, locusts may concentrate in any areas that remain green where they could form a few small groups.

Niger

• **SITUATION**

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

• **FORECAST**

Small-scale breeding is likely to be in progress but is expected to decline as conditions dry out in the central pasture areas and on the Tamesna Plains. Consequently, locusts may concentrate in any areas that remain green where they could form a few small groups.

Chad

• **SITUATION**

During September, isolated immature and mature solitarious adults were scattered from Nokou (1435N/1446E) in the west to Fada (1714N/2132E) and Amdjarass (1604N/2250E) in the northeast. Isolated mature solitarious adults were seen copulating during the second week to the west of Kalait (1550N/2054E).

• **FORECAST**

Small-scale breeding is likely to be in progress but is expected to decline as conditions dry out in central and northeastern areas. Consequently, locusts may concentrate in any areas that remain green where they could form a few small groups.

Senegal

• **SITUATION**

No locusts were reported 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, isolated mature solitarious adults were present along the Niger border near In Guezzam (1934N/0546E). No locusts were seen in the central Sahara near the Adrar Valley (2753N/0017W), in the south near Tamanrasset (2250N/0528E), and along the Mali border near Bordj Badji Mokhtar (2119N/0057E).

• **FORECAST**

Local breeding may occur near irrigated areas in the Adrar Valley of the Central Sahara and perhaps in runoff areas of the Hoggar Mountains in the south. No significant developments are likely.

Morocco

• **SITUATION**

No locusts were reported during September.

• **FORECAST**

No significant developments are likely.

Libya

• **SITUATION**

No reports were received during September.

• **FORECAST**

No significant developments are likely.

Tunisia

• **SITUATION**

No locusts were reported during September.

• **FORECAST**

No significant developments are likely.

CENTRAL REGION

Sudan

• **SITUATION**

During September, mature solitarious adults and groups were first reported on the Red Sea coast north of Tokar Delta (1827N/3741E) on the 13th and on the next day along the western side of the Red Sea Hills near Haiya (1820N/3621E), followed by more immature and mature adult groups and swarms from northeast of Haiya to south of Derudeb (1731N/3607E) where egg-laying occurred, and hatching and band formation commenced at the end of the month. These populations most likely originated in Ethiopia and arrived from adjacent areas of Eritrea. Aerial control operations were mounted and treated 9 900 ha. Elsewhere, scattered immature and mature solitarious adults were present in North Darfur near El Fasher (1337N/2522E), North Kordofan near Sodiri (1423N/2906E), Umm Saiyala (1426N/3112E), the Baiyuda Desert, the Nile Valley between Shendi (1641N/3322E) and Dongola (1910N/3027E), and along the Atbara River.

• **FORECAST**

Hatching and band formation are likely to occur in the east between Kassala and Haiya until about mid-October

with fledging and the formation of immature swarms commencing from early November onwards. In the summer breeding areas, a few small groups may form west of the Nile Valley as vegetation dries out. In the winter breeding areas, breeding is expected to start on the Red Sea coast from October onwards, which may be supplemented by groups and small swarms from adjacent areas of Eritrea.

Eritrea

• **SITUATION**

During September, mature groups and swarms continued to be present in the highlands near Asmara (1519N/3856E) and Keren, the eastern foothills near Afabet (1612N/3841E) and Naro (1626N/3840E), and on the southern and central Red Sea coast. Hatching occurred on the Red Sea coast, causing hopper bands to form near Naro, Foro (1515N/3937E), and Ghelaelo (1507N/4004E), and hopper groups along other parts of the coast between Assab (1301N/4247E) in the south and Sheib (1551N/3903E) in the north. A breeding swarm was seen in the western lowlands near Kerkebet (1604N/3725E) on the 18th and a breeding group was seen in the highlands northwest of Asmat (1615N/3803E) on the 23rd. During the last decade, an increasing number of mature groups were seen on the northern coast near Mehimet (1723N/3833E) where they were laying. Ground teams treated 5 013 ha.

• **FORECAST**

Additional hatching will cause more hopper groups and bands to form on the Red Sea coastal plains and, to a lesser extent, in the western lowlands and the central highlands. Immature groups and swarms are likely to form early in the forecast period onwards that could mature and be ready to lay at the end of the forecast period. This could be supplemented by swarms arriving from northeast Ethiopia.

Ethiopia

• **SITUATION**

During September, substantial hatching and band formation continued in the northern Rift Valley of the Afar region along a 450 km stretch of the eastern escarpment from south of Dese (1108N/3938E) to north of Mekele (1329N/3928E) and west of Semera (1148N/4100E) that included parts of eastern Amhara and Tigray regions. As a result, an increasing number of immature adult groups and swarms formed after mid-month. Similar infestations were present in an area west of Dire Dawa (0935N/4150E). Cross-border swarm movements were reported in the Somali region at the end of the month. Elsewhere, scattered immature and mature adults were reported in the highlands east of Awasa (0703N/3828E) in Oromiya region. No locusts were seen in the Ogaden between Jijiga (0922N/4250E), Kebri Dehar (0644N/4416E), and Gode (0557N/4333E). Control operations treated 57 457 ha of which 30 300 ha were by air.

• **FORECAST**

More swarms are expected to form in Afar that could spread into the Amhara and Tigray highlands as well as south-eastwards to the Somali region and the northern Ogaden where they could mature and breed or continue southwards. This is likely to be supplemented by additional swarms coming from northern Somalia and Yemen.

Djibouti

• **SITUATION**

During September, locusts were reported in the southwest near As-Eyla (1100N/4206E) on the 23rd. In the north, groups of immature and mature adults and an immature swarm were seen along the coastal plains north of Obock (1157N/4317E) on the 30th.

• **FORECAST**

A few groups and small swarms may appear at times from Yemen and transit through the country to Ethiopia and Somalia.

Somalia

• **SITUATION**

During September, immature adult groups and swarms persisted on the northern plateau between Hargeisa (0931N/4402E) and Gardo (0930N/4905E) where some of them were maturing. At least one swarm was seen laying eggs near Erigavo (1040N/4720E). As the month progressed, there were increasing reports of immature swarms in the northeast between Iskushuban (1017N/5014E) and Erigavo. At the end of the month, swarms were reported in the northwest near Boroma (0956N/4313E) that may have come from southern Yemen and adjacent areas of northeast Ethiopia. In the central region of Galguduud, immature and mature solitarious adults persisted near Dusa Mareb (0532N/4623E). Control operations using biopesticides treated 17 477 ha of which 205 ha were by air.

• **FORECAST**

Any swarms that mature are likely to breed in areas of recent rainfall on the northern plateau in the northwest, northeast, and near the Ethiopian border south of Las Anod, giving rise to hopper groups and bands. Swarms that do not mature are likely to move southwards to central regions and adjacent areas of eastern Ethiopia once the prevailing northerly winds become established. This is likely to be supplemented by additional swarms arriving from Yemen and Ethiopia.

Kenya

• **SITUATION**

During September, a few immature and slow maturing spring-bred swarms continued to persist in the northwest counties, shifting from Turkana and Marsabit to Samburu and adjacent areas of northeast Baringo and northwest

Laikipia. The swarms were mainly small and mobile. Aerial control operations treated 2 100 ha by air.

• **FORECAST**

Residual swarms in the northwest are expected to slowly mature and breed in any favourable areas from late October onwards. During November, there will be an increasing threat of low to moderate numbers of swarms arriving in the northeast from Ethiopia and Somalia.

Uganda

• **SITUATION**

No locusts were reported during September.

• **FORECAST**

There remains a low risk that a small swarm or two from adjacent areas of Kenya could stray into Karamoja where it is likely to disperse without breeding.

South Sudan

• **SITUATION**

No locusts were reported during September.

• **FORECAST**

There remains a low risk that a small swarm or two from adjacent areas of Kenya could stray into Eastern Equatoria where it is likely to disperse without breeding.

Egypt

• **SITUATION**

No reports were received during September.

• **FORECAST**

No significant developments are likely.

Saudi Arabia

• **SITUATION**

During the last week of August, several mature swarms were seen in the southwest just north of the Yemen border in the Asir Mountains west of Najran (1729N/4408E) and on the Red Sea coast near Jizan (1656N/4233E). Ground teams treated 1 355 ha.

During September, mature adult groups and swarms were seen in the Asir Mountains between Abha and Mecca primarily during the first week but also at times thereafter. On the Red Sea coast, mature adult groups and swarms laid eggs north of Jizan up to about mid-month. A few immature swarms were seen further north near Lith where an adult group laid eggs nearby. Numerous hopper bands formed on the coast north of Jizan from hatching that commenced at the beginning of the month. Control operations treated 13 745 ha of which 750 ha were by air.

• **FORECAST**

An increasing number of immature adult groups and swarms are likely to form during the forecast period on the southern Red Sea coastal plains near Jizan. Breeding is likely to extend to other coastal areas as far north as Jeddah where good rains fell last month.

Yemen

• **SITUATION**

During September, substantial hatching occurred, giving rise to numerous hopper bands in the interior, mainly on the western edge of Ramlat Sabatyn near Al Hazm (1610N/4446E) and, to a lesser extent, near Marib (1527N/4519E), Bayhan (1452N/4545E), and Nisab (1430N/4629E). Other hopper bands in the same areas caused immature swarms to form and mature. Immature swarms were also present in Wadi Hadhramaut near Sayun (1559N/4844E) and were seen moving from the interior to the southern coastal plains near Zinjibar (1306N/4523E) where hopper bands persisted. Further swarm laying was reported at mid-month near Al Hazm and Zinjibar. Breeding also occurred in the central highlands where hopper bands and a few immature swarms were present north of Sana'a (1521N/4412E). On the Red Sea coast, swarm laying occurred in the north between Al Zuhrah (1541N/4300E) and Suq Abs (1600N/4312E), causing hopper bands to form. Ground teams treated 5 828 ha.

• **FORECAST**

Breeding is expected to continue in the interior between Al Hazam and Wadi Hadramout, on the southern coast near Zinjibar, and along the Red Sea coastal plains, causing more hopper bands and swarms to form.

Oman

• **SITUATION**

During September, an immature swarm was seen flying in the south near Thumrait on the 21st. No locusts were seen elsewhere in the south except for isolated immature solitarious adults in the north near Adam (2223N/5731E).

• **FORECAST**

No significant developments are likely.

Bahrain, D.R. Congo, Iraq, Israel, Jordan, Kuwait, Lebanon, Palestine, Qatar, Syria, Tanzania, Turkey, and UAE

• **FORECAST**

No significant developments are likely.

EASTERN REGION

Iran

• **SITUATION**

During September, no locusts were seen during surveys carried out in the southern provinces of Ilam, Khuzestan, Kohgiluyeh, Bushehr, Fars, Hormozgan, Kerman, and Sistan-Baluchistan, and in the northeastern province of South Khorasan.

• **FORECAST**

No significant developments are likely.

Pakistan

• **SITUATION**

During September, the situation improved dramatically. In Sindh, a very limited second generation of breeding occurred west of Hyderabad (2523N/6822E) and in Tharparkar south of Chachro (2507N/7015E) where early instar hopper groups were present at a few places. In Cholistan, groups of immature adults were present south of Bahawalpur (2924N/7147E) and near Islamgarh (2751N/7048E). In the Lasbela Valley, several hopper groups and bands were present south of Uthal (2548N/6637E) that gave rise to two small immature swarms during the last decade of the month. Ground teams treated 3 645 ha. No locusts were seen elsewhere in Punjab, KPK, Sindh, and on the coast of Baluchistan.

• **FORECAST**

Locust numbers will continue to decline in all areas. A few small residual infestations may persist in Lasbela. No significant developments are likely.

India

• **SITUATION**

By early September, the situation had improved dramatically, and no locusts were seen during intensive surveys in Rajasthan and Gujarat throughout the month.

• **FORECAST**

Small residual populations of scattered adults may be present in a few places in Rajasthan. No significant developments are likely.

Afghanistan

• **SITUATION**

No locust reports were received during September.

• **FORECAST**

No significant developments are likely.

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

Caution (yellow), threat (orange) and danger (red) periods. During locust outbreaks, upsurges and plagues, RAMSES output files with a brief interpretation should be sent regularly every three days.

Bulletins. Affected countries are encouraged to prepare decadal and monthly bulletins summarizing the situation and share them with other countries.

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. See www.fao.org/locusts for more details.

New eLocust3 tools

FAO has developed three new free tools for improving Desert Locust survey and control reporting: eLocust3g, eLocust3m, eLocust3w (http://www.fao.org/ag/locusts/en/activ/DLIS/eL3suite/index.html). Each tool allows the recording of basic survey and control data in the field while offline that is shared within the country in real time.

Locust Hub

FAO in partnership with ESRI has developed a centralized hub for the latest Desert Locust data and progress on the emergency response to the Desert Locust upsurge (https://locust-hub-hqfao.hub.arcgis.com).

Calendar

SWAC. 32nd session (virtual), 7–9 December 2020 (tbc)

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/ESRI Locust Hub. Desert Locust maps and data download, and emergency response progress
https://locust-hub-hqfao.hub.arcgis.com

FAO 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 suite. Digital tools for data collection in the field (mobile app, web form, GPS)
http://www.fao.org/ag/locusts/en/activ/DLIS/eL3suite/index.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

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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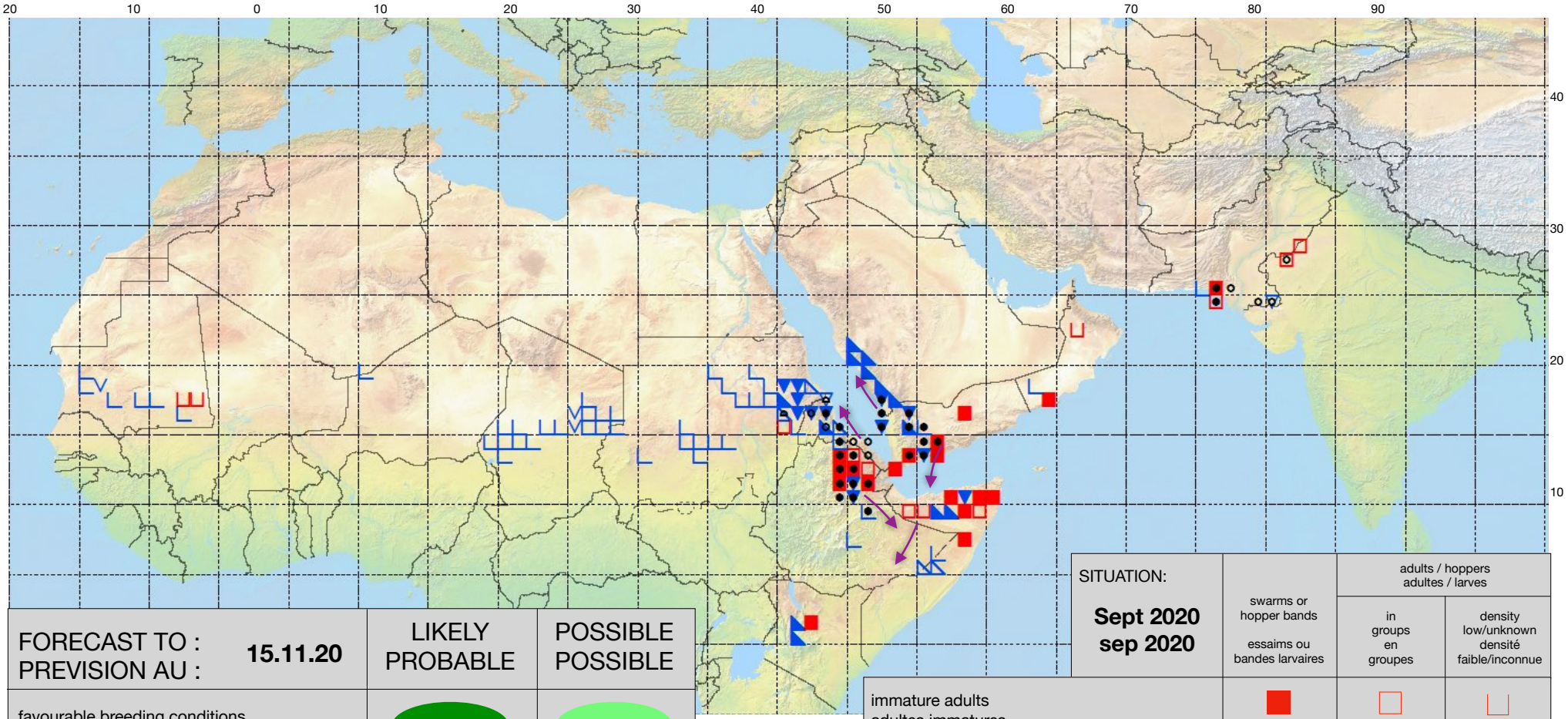

FORECAST TO : PREVISION AU : **15.11.20**	LIKELY PROBABLE	POSSIBLE POSSIBLE
favourable breeding conditions conditions favourables à la reproduction		
major swarm(s) essaim(s) important(s)		
minor swarms(s) essaim(s) limité(s)		
non swarming adults adults non essaimant		

SITUATION: **Sept 2020** **sep 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	◣	◺	∟
adults, maturity unknown adultes, maturité inconnue	▲	△	⋀
egg laying or eggs pontes ou œufs	▼	▽	⋁
hoppers larves	●	○	⌓
hoppers & adults (combined example) larves et adultes (symboles combinés)	◘	◉	⊜