

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 325



General Situation during October 2005 Forecast until mid-December 2005

(3 Nov 2005)

Small-scale breeding continued in parts of the summer breeding areas in the Sahel in West Africa during October. Consequently, locust numbers increased a little in some places but remained low. Limited control operations were only required in Algeria and, to a lesser extent, in Niger. Unusually good rain fell in northern Mauritania and Western Sahara where locusts are expected to arrive and eventually lay eggs. In the Central Region, solitarious adults appeared on the Red Sea coast in Sudan and there was a report of a swarm on the Saudi Arabian coast that could not be confirmed. Control operations were carried out along the Indo-Pakistan border where small hopper bands and adult groups and swarmlets formed. A few small swarms could form there during the forecast period and move towards the Indus Valley in Pakistan.

Western Region. Small-scale breeding occurred during October and low numbers of solitarious hoppers and adults were present in Mauritania, northeast Mali and northern Niger. In western Mauritania, locusts were scattered throughout a large area where ecological conditions were favourable for further breeding. More locusts may actually be present than are suggested by survey results. In the other countries, vegetation was drying out and the locusts were concentrating in the few places that remained green. In Niger, control operations treated 125 ha. Breeding continued for the third consecutive month in southern Algeria where ground teams treated more than 5,000 ha in October. Locust numbers declined

in Chad and only isolated adults persisted. During the forecast period, locust numbers are expected to increase further in western Mauritania and some locusts will move into northern Mauritania and Western Sahara where unusually good rains fell in early October. Intensive surveys should be maintained in these three areas.

Central Region. Although control operations were undertaken in parts of Darfur, Sudan in October, there is a risk that a limited number of adult groups and small swarms could form and move towards the winter breeding areas along both sides of the Red Sea. So far, solitarious adults have appeared in the Tokar Delta in Sudan and good rains fell on the northern coast in Eritrea. In Yemen, small-scale breeding occurred on the Gulf of Aden coast and isolated adults were present on the Red Sea coastal plains. An immature swarm was reported on the coast north of Jeddah in Saudi Arabia but subsequent surveys could find no trace of it or other locusts along the coast. Although the swarm could have originated from western Sudan, it is unlikely that it moved nearly 2,000 km without being seen.

Eastern Region. Hatching and hopper band formation occurred during October in one area on both sides of the Indo-Pakistan border. Although control operations were undertaken in India (3,500 ha) and Pakistan (1,700 ha), a few small swarms could form and move to the Indus Valley and Baluchistan, Pakistan.

The FAO Desert Bulletin is issued monthly, supplemented by Updates during periods of increased Desert Locust activity, and is distributed by e-mail, FAO pouch and airmail by the Locusts and Other Migratory Pests Group, AGP Division, FAO, 00100 Rome, Italy. It is also available on the Internet.

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Weather & Ecological Conditions in October 2005

Unusually good rains fell in northern Mauritania and Western Sahara in early October. Vegetation continued to dry out in the Sahel where summer rains have ended. Ecological conditions improved in a few places along both sides of the Red Sea. Monsoon rains ended along the Indo-Pakistan border and vegetation was starting to dry out.

In the **Western Region**, the Inter-Tropical Convergence Zone (ITCZ) continued its retreat southwards, oscillating between 15N and 10N in October. Unusually good rain fell on 7-10 October in northern Mauritania between Zouerate and Bir Moghreïn as far east as 9W and in adjacent parts of Western Sahara between Tichla and Al-Farcia. Moderate rain also fell during the first decade in Morocco along the Atlantic coast between Tan-Tan and Agadir, on the southern side of the Atlas Mountains and in southern Algeria near Tamanrasset. No significant rain occurred during the remainder of the month. Vegetation continued to dry out in south and southeastern Mauritania but conditions remained favourable in the west between Nouakchott and Tidjikja. By the end of the month, vegetation was starting to become green in Western Sahara where it had rained earlier. Small patches of vegetation persisted in parts of the Tamesna Plains in northeast Mali and northwest Niger while ecological conditions were much drier in the Air Mountains in Niger. In southern Algeria, green vegetation persisted near the Malian and Libyan borders. In Chad, vegetation was drying out in most places.

In the **Central Region**, mainly dry weather prevailed throughout the region during October. Good rains and flooding occurred at the end of the month on the northern Red Sea coast near Mehimet, Eritrea. Conditions were improving on the Red Sea coast of Sudan in the Tokar Delta but were dry in other coastal areas between Egypt and Eritrea. Ecological conditions were favourable for breeding on the Red Sea coast in Saudi Arabia near Jizan and in adjacent areas on the Tihama coast in Yemen; elsewhere, it was dry in both countries. Light to moderate rain associated with eastward-moving Mediterranean

depressions fell along the northern coast in Egypt but locusts are unlikely to be in these areas.

In the **Eastern Region**, no significant rainfall occurred during October. Although vegetation started to dry out in a few places, ecological conditions remained generally favourable in the summer breeding areas in Rajasthan, India and, to a lesser extent, in adjacent areas of Pakistan in the Cholistan and Tharparkar deserts.



Area Treated

Some 10,400 ha were treated in October compared to 1.6 million ha in October 2004, bringing the total area treated since the beginning of the upsurge (October 2003) to nearly 13 million ha.

Algeria	5,120 ha (1-31 October)
India	3,456 ha (1-26 October)
Niger	125 ha (1-31 October)
Pakistan	570 ha (16-30 September)
	1,740 ha (1-15 October)
Sudan	no details (October)

Note: Reporting delays and discrepancies may affect the accuracy of these figures.



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

During October, small-scale breeding continued to the west and east of Tidjikja (1833N/1126W) and northwest of Moudjeria (1752N/1219W). Laying and hatching were reported north of Boutilimit (1732N/1441W) in the Aftout Fai area. Solitary hoppers of all instars and immature and mature adults were present in these areas. Consequently, there was a slight increase in locust numbers but densities remained well below 100 adults/ha. Scattered immature and mature adults were present northeast of Kiffa (1638N/1124W) and immature adults persisted east of Nema (1636N/0715W) and Oualata (1717N/0701W). At the end of the month, isolated mature adults appeared in the northwestern region of Inchiri but no locusts were seen in Tiris Zemmour south of Bir Moghreïn.

• **FORECAST**

Locust numbers are expected to increase in the west between Nouakchott and Tidjikja as breeding continues and adults arrive from the summer breeding areas. If further rainfall occurs, breeding is likely to carry on in these areas and extend to Inchiri. Scattered adults may be present and breeding in Tiris Zemmour between Zouerate, Bir Moghreïn and east to 9W where good rains fell in early October. If so, increases in locust numbers can be expected. Intensive surveys should be maintained in the northwest and north.

Mali

• **SITUATION**

During October, small-scale breeding occurred in the Tamesna and Timetrine where solitary hoppers of all instars were present at densities up to 9 hoppers/bush. Scattered immature and mature adults were reported in these areas as well as in the Adrar des Iforas between Kidal (1827N/0125E) and the Algerian border. A few of the hoppers and adults were transiens and some of the adults were copulating in the Tamesna.

• **FORECAST**

Unless further rainfall occurs in the Adrar des Iforas or Tamesna, breeding is expected to come to an end and only isolated adults are likely to persist in the few areas that remain green in the north.

Niger

• **SITUATION**

During October, low numbers of immature and mature adults and isolated hoppers were present in the northern Air Mountains near Iferouane (1904N/0825E) and on the Tamesna Plains between Arlit (1844N/0722E) and the Malian border. Adults were copulating and laying eggs in a few places west of Arlit and breeding was in progress in one wadi north of Iferouane where solitary and transiens hoppers of all instars were present on 0.5 ha at densities of up to 4 hoppers/m². Isolated adults were also present east of Agadez (1658N/0759E) and on the western edge of the Tenere Desert. During the first decade, adults started to concentrate in the few areas that remained green and ground control teams treated 125 ha of solitary adults at densities of up to 2,500 adults/ha north of Iferouane in Wadi Tassos (1941N/0815E) and on the western side of the Air Mountains in Wadi Anou Mekkerene (1806N/0736E). At the end of the month, hatching was reported in northwest Tamesna near Anes Baraka (1815N/0548E) and first instar hoppers were present at densities up to 20 hoppers/m² in four places. A Metarhizium trial against scattered adults in the Agaliouk (1846N/0731E) area east of Arlit is expected to take

place in early November.

• **FORECAST**

As vegetation becomes drier, breeding will continue to decline and be confined to those few areas that remain green in Tamesna and perhaps in the northern Air Mountains. Locusts are expected to concentrate in these areas, increase slightly in density and, at most, form a few small groups.

Chad

• **SITUATION**

During the first two decades of October, isolated solitary adults were present in the east between Biltine (1430N/2053E) and Fada (1714N/2132E) at densities up to 70 adults/ha.

• **FORECAST**

Unless further rainfall occurs, locust numbers will decline and only isolated adults are likely to persist in the few areas that remain green in Kanem, Ouaddai and Fada.

Senegal

• **SITUATION**

No locusts were reported during the third decade of September and first two decades in October.

• **FORECAST**

No significant developments are likely.

Benin, Burkina Faso, Cameroon, Cape Verde, Cote d'Ivoire, Gambia, Ghana, Guinea Bissau, Guinea, Liberia, Nigeria, Sierra Leone and Togo

• **FORECAST**

No significant developments are likely.

Algeria

• **SITUATION**

During October, small-scale breeding continued east of Tamanrasset where solitary third to fifth instar hoppers, at densities of up to 10 hoppers/m², and mature adults, at densities of up to 5 adults/m², were present. During the last week of the month, additional hopper infestations were found further east towards Djanet (2434N/0930E). Ground control operations treated 5,120 ha during October, mainly in the first week of the month. No locusts were seen during surveys carried out in other parts of the country.

• **FORECAST**

As ecological conditions become unfavourable, locusts may concentrate in the few areas that remain



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green in the southeast, increase slightly in density and, at most, form a few small groups.

Morocco

• SITUATION

No locusts were seen during surveys carried out south of the Atlas Mountains along the border with Algeria and in Western Sahara.

• FORECAST

Scattered adults may appear in the southern part of Western Sahara and could extend as far north as Smara where small-scale breeding could occur in areas of recent rainfall.

Libyan Arab Jamahiriya

• SITUATION

No locusts were reported during October.

• FORECAST

Small-scale breeding may be in progress in the southwest near Ghat but locust numbers are expected to remain low.

Tunisia

• SITUATION

No reports were received during October.

• FORECAST

No significant developments are likely.

CENTRAL REGION

Sudan

• SITUATION

During October, control operations were undertaken in some of the secure parts of North Darfur and hoppers were seen in inaccessible areas near Karnoi (1503N/2337E). No further details were available. On the Red Sea coast, isolated immature and mature adults appeared in the Tokar Delta on 16 October. No locusts were seen elsewhere along the coast as well as in the interior near Wadi Oko/Diib. Although the situation was reported to be calm in other regions, further details are awaited.

• FORECAST

A limited number of small adult groups and perhaps a few small swarms could still form in Darfur. If so, most of these adults are likely to move towards the winter breeding areas along the Red Sea coast while a few could move west towards Northwest Africa. Those that move east may first appear along the

Atbara River. Small-scale breeding is expected to commence on the Red Sea coast with the onset of the winter rains.

Eritrea

• SITUATION

No locusts were seen during surveys carried out on the northern coast of the Red Sea near Mehimet (1723N/3833E) and on the southern plains near Tio (1441N/4057E) on 13-24 October.

• FORECAST

Low numbers of locusts may be present or reappear on the northern coastal plains of the Red Sea and breed on a small scale in areas of recent rainfall.

Ethiopia

• SITUATION

No locusts were seen during surveys carried out in the Tigray region during the first week of October.

• FORECAST

No significant developments are likely.

Djibouti

• SITUATION

No locusts were reported during October.

• FORECAST

No significant developments are likely.

Somalia

• SITUATION

No locusts were seen on the escarpment to the northwest and northeast of Hargeisa (0931N/4402E) or on the coast west of Berbera (1028N/4502E) during surveys carried out on 18-22 October.

• FORECAST

No significant developments are likely.

Egypt

• SITUATION

No locusts were seen during surveys carried out in October along both sides of Lake Nasser or near Shalatyn on the Red Sea coast.

• FORECAST

Isolated adults may appear in the winter breeding areas along the Red Sea coast between Shalatyn and the Sudanese border and eventually breed if rainfall occurs.

Saudi Arabia

• SITUATION

On 31 October, there was an unconfirmed report of an immature swarm on the Red Sea coast north of Jeddah in downtown Rabigh (2247N/3901E). Subsequent surveys could find no trace of the swarm or of other locusts along the Red Sea coastal plains between Yenbo and Jizan.

• **FORECAST**

Isolated adults may be present on the southern coastal plains of the Red Sea near Jizan and small-scale breeding could occur in areas where conditions are favourable. If the swarm is confirmed, it is likely to remain on the coast or move inland in search of favourable ecological conditions. There is a low risk that it could move west across the Red Sea.

Yemen

• **SITUATION**

During October, local breeding occurred at five places on the coastal plains east of Aden near Zinjibar (1306N/4523E) where first to fourth instar hoppers were present at densities up to 2 hoppers/m² at mid-month. Isolated solitary mature adults were seen on the Red Sea coastal plains near Hodeidah (1450N/4258E) and Bayt Al Faqih (1430N/4317E). No locusts were seen on the northern coastal plains of the Red Sea or on the coast west of Aden. No information was received about the situation in the interior where breeding occurred during September.

• **FORECAST**

Small-scale breeding is expected to occur on the Red Sea coastal plains causing locust numbers to increase slightly. Fledging will take place on the Gulf of Aden coast near Aden and perhaps a few small adult groups could form. Further breeding could eventually occur if rains fall during the forecast period.

Oman

• **SITUATION**

No locusts were seen during October on the Musandam Peninsula.

• **FORECAST**

No significant developments are likely.

Bahrain, Iraq, Israel, Jordan, Kenya, Kuwait, Lebanon, Palestine, Qatar, Syria, Tanzania, Turkey, UAE and Uganda

• **FORECAST**

No significant developments are likely.

EASTERN REGION

Iran

• **SITUATION**

No reports were received during October.

• **FORECAST**

No significant developments are likely.

Pakistan

• **SITUATION**

Late reports indicated that a swarm of about 320 ha was seen copulating and laying eggs and six other small swarmlets of about 100 ha each were present on 26-30 September in Cholistan near the Indian

border and Salamsar (2758N/7149E). Control teams treated 570 ha.

During the first half of October, there were 15 reports of mature swarmlets settled in several places in the Salamsar area. Hatching occurred in some of these places and about 54 small first to third instar hopper bands reportedly formed. Ground control teams treated 1,740 ha. Elsewhere, isolated mature solitary adults at densities of up to 20 adults/ha were present in a few places in Nara, Tharparkar and Cholistan deserts.

• **FORECAST**

An increasing number of adults including a few groups and small swarms are likely to appear from adjacent areas of Rajasthan and progressively move towards the west, threatening the southern and central Indus Valley. Most of these populations will probably continue further west where they may disperse in Baluchistan.

India

• **SITUATION**

During the first half of October, hatching occurred in 11 places northwest of Jodhpur between Phalodi (2706N/7222E) and Jaisalmer (2652N/7055E) where laying was reported in September. First and second instar hoppers formed very small patches and bands at densities of up to 30 hoppers/m² mixed with groups of mature adults within a limited area of about 75 km by 25 km in Jaisalmer district. By the end of the month, some of the hoppers had reached fifth instar. Ground control teams treated 3,456 ha from 1 to 26 October. Although the situation was reported to be calm elsewhere in Rajasthan, further details are awaited.

• **FORECAST**

Any locusts that escape detection and control are likely to form a few small adult groups and swarmlets near Jaisalmer that will probably move towards the west. Consequently, the situation should improve by the end of the forecast period.

Afghanistan

• **SITUATION**

No reports received.

• **FORECAST**

No significant developments are likely.



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Announcements

Locust reporting. During locust outbreaks, upsurges and plagues, RAMSES output files with a brief interpretation should be sent twice/week and affected countries are encouraged to prepare decadal bulletins summarizing the situation. During recession periods, countries should report at least once/month. All information should be sent by e-mail to the FAO/ECLO Desert Locust Information Service (eclo@fao.org). Information received by the end of the month will be included in the FAO Desert Locust Bulletin for the current month; otherwise, it will not appear until the following month. Reports should be sent even if no locusts were found or if no surveys were conducted.

Desert Locust Mapper. The Locust Group has launched an updated version of the Desert Locust Mapper that allows users to access locust data, both historical and current, and display swarm, band, hopper and adult infestations on maps at different scales. See: www.fao.org/ag/locusts (Mapper)

Desert Locust booklet. FAO has produced a booklet for the general public and donor community entitled *Hunger in their wake: Inside the battle against the Desert Locust*, available for download at www.fao.org/ag/locusts (Publications).

Publications on the Internet. New FAO publications and meeting reports are available for downloading at www.fao.org/ag/locusts (Publications):

- Report of the 3rd session of the FAO Commission for Controlling the Desert Locust in the Western Region (French, Arabic)
- Report of the 27th Executive Committee meeting of the FAO Commission for Controlling the Desert Locust in the Central Region (English, Arabic)

2003-05 campaign evaluation. An independent evaluation of the recent Desert Locust campaign will be carried out during the next few months. It will be overseen by a Steering Committee composed of donors and affected countries. Preliminary results of the evaluation are expected to be reported at the next session of the DLCC in March 2006.

2005-2006 events. The following meetings are tentatively scheduled:

- **EMPRES/CR.** 6th Consultative Committee, Cairo (Egypt), 13-15 November
- **EMPRES/CR.** 13th Liaison Officers meeting, Yemen, 11-15 December
- **EMPRES/WR.** 4th Liaison Officers meeting, Algiers, January/February 2006
- **DLCC.** 38th Session, Rome, 6-10 March



Glossary of terms

The following special terms are used in the Desert Locust Bulletin when reporting locusts:

NON-GREGARIOUS ADULTS AND HOPPERS

ISOLATED (FEW)

- very few present and no mutual reaction occurring;
- 0 - 1 adult/400 m foot transect (or less than 25/ha).

SCATTERED (SOME, LOW NUMBERS)

- enough present for mutual reaction to be possible but no ground or basking groups seen;
- 1 - 20 adults/400 m foot transect (or 25 - 500/ha).

GROUP

- forming ground or basking groups;
- 20+ adults/400 m foot transect (or 500+/ha).

ADULT SWARM AND HOPPER BAND SIZES

VERY SMALL

- swarm: less than 1 km² • band: 1 - 25 m²

SMALL

- swarm: 1 - 10 km² • band: 25 - 2,500 m²

MEDIUM

- swarm: 10 - 100 km² • band: 2,500 m² - 10 ha

LARGE

- swarm: 100 - 500 km² • band: 10 - 50 ha

VERY LARGE

- swarm: 500+ km² • band: 50+ ha

RAINFALL

LIGHT

- 1 - 20 mm of rainfall.

MODERATE

- 21 - 50 mm of rainfall.

HEAVY

- more than 50 mm of rainfall.

OTHER REPORTING TERMS

BREEDING

- the process of reproduction from copulation to fledging.

SUMMER RAINS AND BREEDING

- July - September/October

WINTER RAINS AND BREEDING

- October - January/February

SPRING RAINS AND BREEDING

- February - June/July

DECLINE

- a period characterised by breeding failure and/or successful control leading to the dissociation of swarming populations and the onset of recessions; can be regional or major.

OUTBREAK

- a marked increase in locust numbers due to concentration, multiplication and gregarisation which, unless checked, can lead to the formation of hopper bands and swarms.

UPSURGE

- a period following a recession marked initially by a very large increase in locust numbers and contemporaneous outbreaks followed by the production of two or more successive seasons of transient-to- gregarious breeding in complimentary seasonal breeding areas in the same or neighbouring Desert Locust regions.

PLAGUE

- a period of one or more years of widespread and heavy infestations, the majority of which occur as bands or swarms. A major plague exists when two or more regions are affected simultaneously.

RECESSION

- period without widespread and heavy infestations by swarms.

REMISSION

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

REGIONS

WESTERN

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

CENTRAL

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

EASTERN

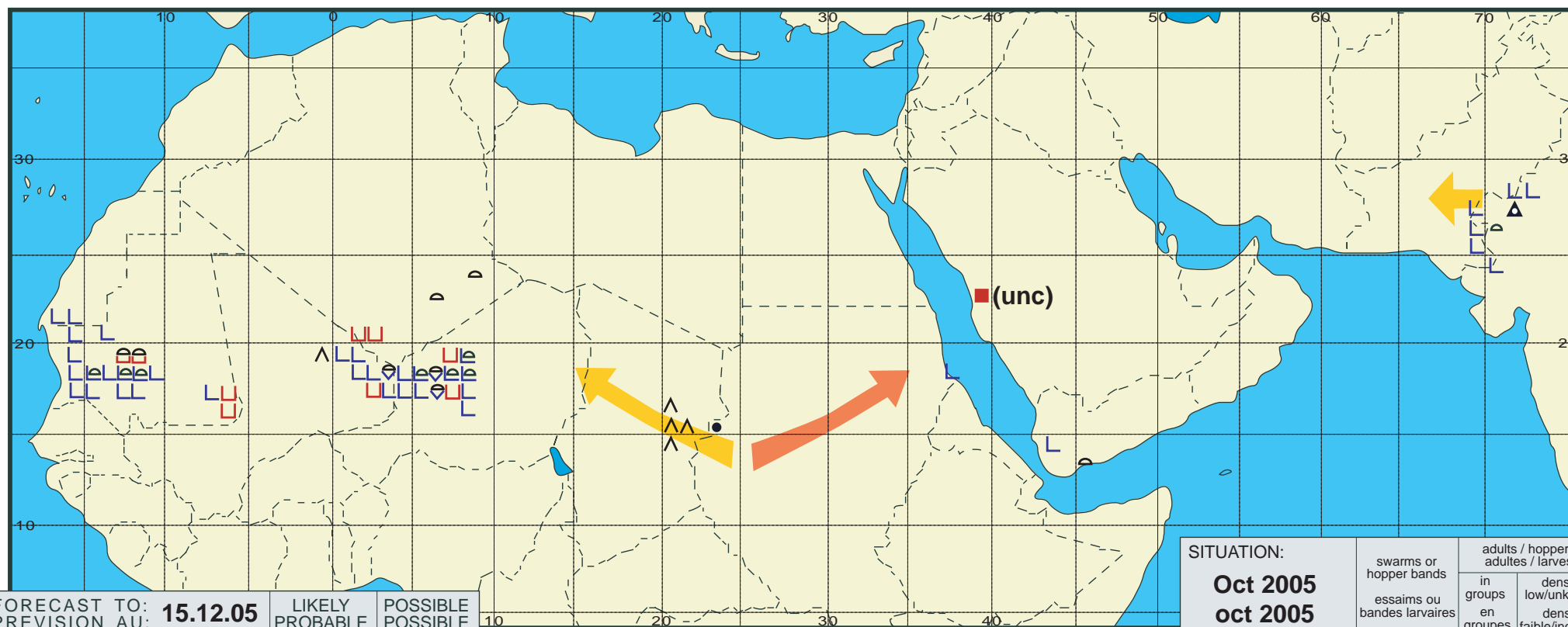
- locust-affected countries in South-West Asia: Afghanistan, India, Iran and Pakistan.


























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FORECAST TO: PREVISION AU:	15.12.05	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: Oct 2005 oct 2005	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)	