ORGANISATION DES NATIONS UNIES POUR L'ALIMENTATION ET L'AGRICULTURE

ORGANIZACION DE LAS NACIONES UNIDAS PARA LA AGRICULTURA Y LA ALIMENTACION

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Locusts, other migratory pests and emergency operations group

DESERT LOCUST SITUATION SUMMARY AND FORECAST

No. 14 October 1979

SUMMARY

Widespread rain fell in countries around the Red Sea in the third week of October and conditions are undoubtedly very favourable for an early winter generation.

Groups of adults were reported from the Tokar delta of Sudan but the extent of the infestations is unknown. However it is possible that they could extend into Northern Ethiopia and the South-Eastern desert of Egypt and that some adults could reach the Tihama of Saudi Arabia and the Yemen Arab Republic. If there are further good rains in the coming months a potentially dangerous upsurge could develop.

In West Africa hoppers and adults were reported from a number of localities in Western Mauritania and small numbers of adults were found in Mali and Niger.

In South-West Asia small numbers of adults and a few hoppers were present in India and Pakistan.

W/N3999

DESERT LOCUST SITUATION - OCTOBER 1979

The weather summaries are based on synoptic charts prepared by the Consultant Synoptic Meteorologist seconded by the World Meteorological Organization, Geneva. Extra information has been provided by the interpretation of Meteosat imagery supplied by the European Space Operation Centre, Darmstadt and of GOES - Indian Ocean imagery supplied by the Centre pour la Météorologie Spatiale, Lannion, and by information supplied by the national and regional locust organizations and commissions.

WEST AFRICA

Weather

October marks the transition from the rainy season to the dry season. The change occurs progressively but not without fluctuations. At the beginning of the month the Intertropical Front (FIT) at the surface lay approximately along the line Ziguinchor-Nguigmi reaching 20°N in Mali. At the end of the month it was situated along about 12°N in the west and 10°N in the east. Thus, in Niger, Upper Volta, most of Mali, Senegal and Mauritania the dry season had already commenced. It may be noted that just as the start of the rainy season began earlier in Niamey than in Dakar, so did the dry season begin earlier in the east.

The principle factors which lead to the change in the weather regime are:

(i) the Saharan heat low pressure area fills as solar radiation decreases and air temperatures decline;

(ii) the Libyan anticyclone becomes established over the north-eastern Sahara;

(iii) the Azores anticyclone moves southwards and, of greatest importance,

(iv) the St Helena anticyclone moves bac southwards.

The above-mentioned fluctuations are caused by deep depressions over Spain and the Mediterranean and resulted in a spectacular northward surge of the monsoon on 3-4 October. For example, it reached F'Derik (22°N) and caused rain and thunderstorms in south-western Mauritania. Atar recorded 39.2 mm in 4 days, compared with a long-term mean of 8 mm, and Akjoujt recorded 44.5 mm in 5 days (normal 8 mm). Favourable conditions existed to the west of Tagant.

Rainfall totally ceased in Niger after the second decade and was deficient in all areas except Tillabery which recorded 36 mm up to 20 October compared with a normal of 11 mm.

In Mali rainfall was above average except at Bamako, which recorded only 19 mm compared with a normal of 58 mm.

MAURITANIA

Ground surveys undertaken in western Mauritania recorded the presence of considerable numbers of hoppers and adults at numerous localities in Aouker from 9-29 October. At 1822N/1222W 48 mature adults were captured and laying was observed. At 1830N/1220W first-fifth instar were present at densities of 0-5 per plant and 43 hoppers were captured. At 1818N/1240W first to fourth instar hoppers were present at densities of up to 3 per plant and 46 were captured. At 1832/1430W first to fifth instar hoppers were present at densities of up to 25 per plant on 29 October. Some fifth instars were yellow and some fourth instars had black markings but group behaviour was not observed.

MALI

Following rain on 20 September ecological conditions were favourable in the south-west and south-east of the Adrar des Iforas. Copulating and laying adults were present at densities of 50-100 per hectare atTaraghacht (1848N/0039E) over an area of 10 hectares. Mature adults at 2-4 per hectare were seen at Tadjaraft (1823N/0115E) over an area of 30 hectares. In Inrhar (1832N/0205E) immature adults were present over an area of 25 ha, and isolated adults were present at Tahalt (1845N/0047E) and Atkiou (1937N/0054E).

NIGER

Small numbers of adults were observed in the Aïr north of 19°N and some first to fourth instar hoppers were also seen.

In September, in MAURITANIA, mature adults were found copulating and laying at low densities in Aouker in the sector between 1826N and 1852N and 1350W and 1445W. The maximum density was 100 per ha over an area of Tribulus and Farsetia measuring 0.5 ha at 1832N/1430W. The soil was moist at depths varying from 5 to 90 cm.

In MALI, where rains were generally deficient during September there was good development of the annual vegetation locally in the north-west and south of the Adrar des Iforas and in Tamesna. On 21 September first to fourth instar hoppers were found in Tribulus ochroleucus and Boerhavia at a density of 50-100 per hectare over 3 hectares in Oued Tozraf (2005N/0150E). Scattered mature adults were found in Oued Azou (1707N/0405E) and Tidjelalen (1738N/0220E).

In NIGER one adult was found in September.

NORTH-WEST AFRICA

Weather

Two main factors mark the beginning of autumn. First, disturbances in the polar front, which had already appeared in September, moved further and further south as the Azores anticyclone moved south, and sometimes reached southern Algeria. Second, the Libyan anticyclone began to be reconstituted weakly and intermittently and did little to slow down or halt disturbances in the cold front and as a result there was prolonged rainfall. This explains the heavy rains reported from Ahaggar. The penetration of a cold front, well marked on the synoptic charts and on satellite imagery, occurred on the 10th and 11th and undoubtedly gave rise to these rains. Later, satellite imagery showed a wide band of cloud along the line Ziguinchor (south of Dakar) - Tripoli between the 14th and 19th. This band was not associated with a well-defined Mediterranean disturbance, but with a zone of intertropical convergence south-west of Dakar. From synoptic observations it appears that the cloud band was at middle level, associated with a trough at altitude. It is highly probable that it produced some rain in the Sahara but this is unlikely to have been heavy due to evaporation before it reached the ground, due to the extremely dry air.

Later, a cold front, undoubtedly accompanied by heavy rain was observed around the 25th. Tamanrasset reported torrential rain on the 25th.

Without doubt further weather of this type will occur in November.

No locust reports were received from the Region.

EASTERN AFRICA

Weather

At the beginning of the month the Intertropical Zone (ITCZ) was situated along approximately 10°N but by the end of the month it had retreated to central-southern Somalia. There was little rain between the 1st and 15th of October.

On the 15th, however, extensive cloud cover developed over northern Somalia and eastern Ethiopia and gave rise to heavy rain on the coastal, the subcoastal plains and south of the coastal escarpment in northern Somalia. Hargeisa recorded 125 mm on 15 and 16 October, compared with the monthly mean of 16 mm.

Also on the 16th substantial cloud cover started to develop on both sides of the Red Sea, initially at about 18°N. It gradually moved north and east and led to widespread heavy rain from northern Ethiopia to Egypt and over much of western and northern Saudi Arabia. Asmara recorded 59 mm

in 3 days, Port Sudan 76 mm in 3 days, compared with the monthly mean of 6 mm, while there were freak storms and much flooding in Upper Egypt between about the 19th and 23rd of October.

SUDAN

In late October mature, copulating, adults were found at densities of 2640-4100 per hectare in five localities of the Tokar delta, and low density adults at densities of 180 per hectare at Khor Ashaat (1844N/3726E) and Khor Weirim (1847N/3724E).

No locusts were reported from elsewhere in the Region during October.

During September a ground survey team encountered a few scattered adults between Tendaho and Mille in the Awash valley.

NEAR EAST

Weather

The cloud cover observed over eastern Africa from 16 to 21 October also extended over the Red Sea. In the same period the Yemen Arab Republic and western and northern Saudi Arabia and in particular the Tihamas also received heavy rains and thunderstorms. Medina reported heavy rain on 21 October. No further significant weather was observed from 22 to 31 October. The weather in the region will be kept under close observation because there will undoubtedly be further rain in the forthcoming months.

SAUDI ARABIA

Ground surveys of the Tihama located a total of 66 locusts between Lith and Wadi Hali. A few adults were found on the Jizan Tihama and two were seen at Qawaiyah (2420N/4328E).

YEMEN ARAB REPUBLIC

Ground survey teams located a total of 6 adults in the Wadi Hayran, Al-Jarr and Az Zaidiyah areas.

PEOPLE'S DEMOCRATIC REPUBLIC OF YEMEN

In the course of extensive ground surveys along the coast and in the interior a total of 4 adults were seen.

SULTANATE OF OMAN

No desert locusts were seen on an extensive ground survey of Oman from 27 September - 17 October, and conditions were unfavourable for breeding.

KUWAIT was reported clear in October.

EGYPT and IRAQ were reported clear in September.

SOUTH-WEST ASIA

Weather

The monsoon retreated very rapidly during the month. The thermal low pressure area, which develops over India in the summer and is one of the main elements of the monsoon, filled in progressively.

At the beginning of the month the ITCZ, which is more than a simple convergence zone, but marks the northern limit of the monsoon, was situated along approximately the axis Surat-Assam, but by the end of the month it had retreated to northern Tamil Nadu - Pondicherry. South-westerly winds, similar to sea-breezes, continued to blow, and gave rise to widespread rain in north-west India. Also a frontal system moved across Pakistan on 21 October from the east and brought widespread rain to both summer and winter-spring breeding areas. In India Deesa recorded 32.4 mm, Jaisalmer 22.7, Bikaner 14.2, Jodhpur 11.3, Bhuj 10.4 and Barmer 8.7 mm; in Pakistan Dera Ismail Khan recorded 8 mm and Karachi 4 mm. It is possible, if not probable, that heavier rain fell in some areas, but we have not received reports of it. In the last decade there were further rains, Lahore recorded 17 mm and Drosh 9 mm.

More rain is anticipated in November, particularly in Pakistan but it is unlikely to be heavy.

Once again there is no synoptic information from Afghanistan or Iran but satellite imagery suggests there may have been some showers in southern Iran in late October.

PAKISTAN

During a special eastern border survey scattered adults were found at five localities in Cholistan at densities ranging from 150 to 600 per square kilometre between 20 and 23 October. Nine individuals were found at six localities in the Tharparkar and Sanghar deserts. No locusts were reported from Baluchistan.

INDIA

In the first half of the month scattered immature and maturing adults were found at a few localities in Rajasthan. The maximum density was 650 per square kilometre at Agnao (2807N/2245E) on 6 October. Elsewhere adults at 15 per square kilometre were seen at Khirjan (2624N/7222E) in Jodhpur district on 10 October and at 30 per square kilometre at Gadra Road (2545N/7033E) on 6 October. Four first-third instar hoppers were collected at Agnao on 13 October.

In the second half of October scattered immature and maturing adults were again reported from several localities in Rahasthan, the maximum density being 600 per square kilometre at Babale (2746N/7132E) and Kali Buili (2704N/7056E) in Jaisalmer district on 27 October.

No locusts were reported from AFGHANISTAN in October.

Two adults were reported from the Saravan area (2715N/6210E) of Baluchistan Province of Iran on 13 September.

FORECAST FOR DECEMBER 1979 - JANUARY 1980

The widespread and heavy rains in countries around the Red Sea in the third week of October will undoubtedly produce many habitats favourable for successful breeding. First generation breeding will come to an end towards the end of December and could give rise to some swarms. If there is further good rainfall during the forecast period second generation breeding will commence and hopper band formation is likely to occur. On present information the largest populations are on the western side of the Red Sea but migrations to the eastern side may give rise to potentially dangerous populations there also.

In Eastern Africa fledglings from the first winter generation will start to appear along the Red Sea coast in late December. The absence of data from the Red Sea coast of Ethiopia makes it difficult to forecast the scale of the new generation of adults but it could include some swarms. If there are further rains along the Red Sea coasts these adults will mature rapidly and lay, and hoppers of the second generation are likely to start to hatch in late January and form bands. Breeding will almost certainly occur on the coastal and sub-coastal plains of northern Somalia, particularly west of Berbera and may extend into Djibouti. Initially it is likely to be at low density but, again, if there is further widespread and heavy rain, hopper bands could be produced in the second generation, at the end of the forecast period.

In the Near East the number of adults could rise substantially due to invasions of the Tihamas of Saudi Arabia and the Yemen Arab Republic from the west. Breeding has almost certainly started along the Tihamas and new generation adults will start to appear in late December. If there are further good falls of rain these will mature and lay, and hoppers of the second generation are likely to appear in late January and could include some bands. It is possible that adults could reach the south-eastern desert of Egypt, in which case breeding will also occur there and could result in the formation of groups, if not of bands. Breeding is likely to be in progress in the People's Democratic Republic of Yemen and could result in the formation of some hopper groups. If there are further rains the resulting adults will lay and some bands could form in the second generation.

In South-West Asia numbers will remain low in Rajasthan and adjacent summer breeding areas of Pakistan. Small numbers of adults will occur in the Mekran of Pakistan and Iran and small-scale breeding could start towards the end of the forecast period.

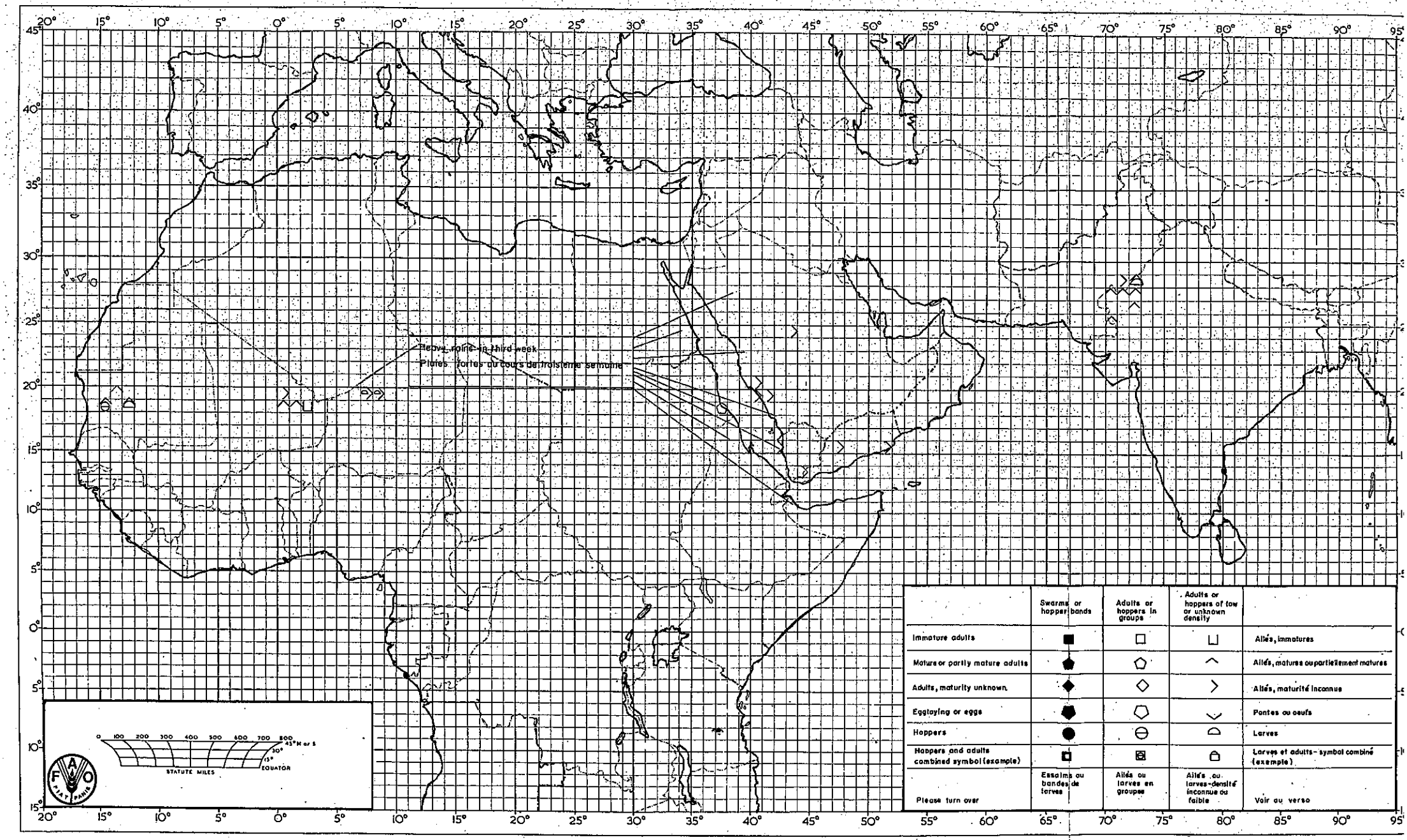
In West Africa breeding will continue in the Acuker area of Mauritania and is likely to extend further north into northern Mauritania and Western Sahara. Some group formation is likely to occur and possibly some bands will form. Breeding will end in Mali and only small numbers of adults are likely to overwinter in Mali and Niger.

In North-West Africa small numbers of adults have probably reached southern, western, central and eastern Algeria and the Fezzan of Libya, and breeding on a small-scale could commence.

Rome

23 November 1979.

Desert Locust Situation Summary No. 14 OCTOBER / OCTOBRE 1979



	Swarms or hopper bands	Adults or hoppers in groups	Adults or hoppers of low or unknown density	
Immature adults	■	□	⊔	Ailés, immatures
Mature or partly mature adults	⬟	⬠	^	Ailés, matures ou partiellement matures
Adults, maturity unknown	◆	◇	>	Ailés, maturité inconnue
Egglaying or eggs	⬢	⬡	⌄	Pontes ou oeufs
Hoppers	●	⊖	⌓	Larves
Hoppers and adults combined symbol (example)	◘	▣	⌂	Larves et adults - symbol combiné (exemple)
Please turn over	Essaims ou bandes de larves	Ailés ou larves en groupes	Ailés ou larves-densité inconnue ou faible	Voir au verso