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Locusts, other migratory pests and emergency operations group

DESERT LOCUST SITUATION SUMMARY AND FORECAST

No. 122 OCTOBER TO EARLY NOVEMBER 1988

SUMMARY

A serious situation persisted throughout the summary period. In West Africa there was further offshore migration into the Atlantic Ocean with subsequent re-invasions of the Cape Verde Islands and islands in the eastern Caribbean. Large scale migration also occurred in a northerly direction resulting in a re-invasion of Morocco. Large scale hatching and band formation occurred in Senegal and Mauritania and on a lesser scale in Gambia and Guinea Bissau. By late November new generation swarms were beginning to form in Senegal and Mauritania. Swarm formation on varying scales also continued in Mali, Niger and Chad but was largely complete by late November.

In North-West Africa large scale swarm control continued throughout the summary period particularly in Morocco following a large scale invasion in late October-early November. Swarm control was also undertaken in Algeria but gradually declined towards the end of November.

In Eastern Africa further swarms continued to form and migrate towards the Red Sea and adjacent areas of eastern Sudan although conditions do not appear to be highly favourable for breeding. Swarms persisted in northern Ethiopia and there was small scale breeding in Djibouti.

In the Near East swarms continued to invade the Tihamas of Saudi Arabia and the Yemen Arab Republic and to migrate further east resulting in small scale invasions of Iraq, Kuwait, Bahrain and Qatar in late October-early November. Substantial breeding commenced in Saudi Arabia in late October and by late November band formation was in progress.

In South-West Asia a small scale invasion of south-western Iran occurred in early November and there was an unconfirmed report of locusts in western Afghanistan. The situation remained calm in Pakistan and India.

W/S9638

Meteorology

The Inter-Tropical Convergence Zone (ITCZ) moved progressively southwards over the summary period and by mid November was located in the vicinity of 11 to 14 degrees north over Senegal and Mali and 9 to 13 degrees over Niger and Chad.

Analysis of Meteosat imagery over the summary period suggests that no significant rain fell throughout the region north of approximately 14 degrees. However, field reports indicate that moderate rain fell in the Bir Moghreïn area of northern Mauritania in late October.

Breeding conditions

Analysis of NOAA/VHRR imagery indicates a continued deterioration in breeding conditions during October throughout most of the Sahel Zone. In Senegal the imagery indicates a rapid drying of the vegetation in the second half of October with only restricted areas of northern Senegal and southern Mauritania remaining suitable.

Locusts

MAURITANIA

A widespread and serious infestation persisted throughout most regions of Mauritania during the summary period. South of the 17th parallel a general infestation comprising maturing swarms, immature adults and predominantly late instar bands was present in the Tagant, Inchiri, Brakna, Trarza, Guidimaka, Gorgol and both Hodh regions. In early November further hopper bands were reported from the coastal area between Nouakchott and Rosso and the Aouker, Tagant, Hodh Charghi and Gorgol regions and by late November moderate to large scale formation of new generation swarms was in progress.

North of the 17th parallel swarms were reported from the Atar and Cape Timiris areas in early November and a general northerly migration towards western parts of the Sahara and Morocco occurred from late October onwards. There were increasing reports of significant crop damage during the summary period.

Control operations continued throughout the summary period with 548,946 ha treated by 14 November.

SENEGAL

A very serious situation persisted in Senegal during the summary period. Further immature swarms from the north invaded the Thies, St. Louis, Louga and Matam areas during the third decade of October and early November. In the second half of October a very large number of predominantly early instar hopper bands formed in the north-west of Senegal in the Louga-Thiamene-Diourbel-Tivaoune area (approximate coordinates 1435N to 1540N/1543W to 1650W). By early November the population was predominantly late instar and it was estimated that up to

500,000 ha required control in this area. Early instar hopper bands were also reported in the Matam, Fatick, Zinguinchor and Kolda areas in the first half of November. By 7 November fledging was reported to be in progress in the Thies and Diourbel areas and in the Rao area on 11 November. Formation of new generation immature swarms was reported in late November whilst mature mating swarms were also observed in the Matam area. Substantial damage to crops was reported during the second half of the summary period.

Large scale ground and aerial control continued throughout the summary period with 909,344 ha treated by 18 November.

CAPE VERDE

Further immature swarms were reported to have invaded many islands between 11 and 12 October and 31 October and 3 November. A number of immature high density swarms, ranging in size from 1 to 12 sq. km, were reported from Santa Antao, Santiago, Fogo, Sal San Nicolau, Maio, Boa Vista, Brava and San Vincente during October and early November. Moderate to heavy rain fell between 7 and 8 November and by 13 November swarms were observed to be maturing and mating on Santiago. Ground control was carried out throughout October and the first half of November but no details were available.

ATLANTIC OCEAN

The following ship reports were received during the summary period.

On 28 October a ship reported isolated immature locusts between 2112N/5823W and 1917N/6031W flying in easterly winds of 10 knots.

On 31 October a ship reported approximately 10 mature locusts landing on board. Position was given as 1710N/2225W and wind was reported as northerly at 10 knots.

On 3 November a ship reported groups of both immature and mixed maturity locusts landing on board between 0753N/2821W and 0936N/2748W. Wind direction was north-easterly at 10 knots.

On 4 November a ship reported approximately 30 immature adults landing on board. Position was given as 0433N/4716W and wind was reported as south-easterly at 5 knots. On 5 November this ship also reported further locusts landing on board and large numbers of dead immature locusts in the sea at positions 0739N/5252W and 0157N/5321W. Wind direction was reported as easterly at 9 knots.

On 9 November a ship reported intermittent groups of immature locusts between 1305N/3520W and 1240N/3546W. Wind direction was north-easterly at 15 knots.

GAMBIA

A further invasion by mature swarms, one estimated at 6 sq. km in size, was reported on 25 October. Hatchings were also reported in the North Bank area in late October and by mid November numerous hopper bands were present in this area and also in the South Bank area.

GUINEA BISSAU

On 12 October a small swarmlet of approximately 4 ha in area was reported at Doungal. Between 14 and 20 October numerous small mature swarmlets varying in size from 6 to 100 ha, were reported from approximately 20 localities in the north-west region of Zinguinchor. Small scale laying was reported in several of the localities referred to above and by late October small scale hatchings were reported in the Susana (1219N/1628W), Basseo (1220N/1636W), Elia (1219N/1623W) and Igins (1214N/1628W) areas. Small scale ground control was undertaken with 70 ha treated by 3 November.

CAMEROON was reported free of locusts up to 4 November.

MALI

Tombouctou-Segou regions

A number of hopper bands of various stages, majority third to fourth instars, were reported to extend from Nampala near the Mauritanian border to Lere and Niafunke in the Lakes region, east to Tombouctou in the first half of October. One band observed near Tombouctou on 9 October was estimated to be approximately 30 km long whilst another observed between Tombouctou and Goa was estimated at 50 km long. Fledging and swarm formation was reported to be in progress in early November. In early November low density mature adults were also reported laying in the Lake Aougoundou and Niangaye areas.

Gao

A substantial population of hopper bands was reported in Timetrine (1854N to 1910N/0013W to 0044W) on 17 October. Fledging and swarm formation was reported to have commenced in early November.

Mopti

Scattered hopper bands were reported in the Bambara-Maounde area and between Gossi and Gao during October.

Small to moderate scale control continued during the summary period with 358,115 ha treated by 11 November.

NIGER

In the first decade of October two main areas of locust activity were reported: in the Tahoua and Agadez areas. In the Tahoua area a widespread low density population (3 to 5 per sq. metre) of immature adults was present together with scattered late instar hopper bands. Approximate coordinates for this infestation were given as 16N to 17N/0420E to 0645E. This infestation persisted until late October.

In the Agadez area both immature and maturing swarms were present in western Air and Tamesna together with scattered hopper bands in late October.

Control operations continued throughout the summary period with an estimated 635,000 ha treated by 3 November.

CHAD

In eastern Chad swarms flying from the east to the west and north-west were reported from the Biltine and Ouaddai districts during October. By early November there had been a progressive decline in the number of swarms reported although the later reports were of mature swarms. Mature adults and mating was reported to be in progress in the northern Tibesti area in early November but there was no indication of the size of the population in this area. Small scale control of hopper bands and immature swarms also continued in the Kanem, B.E.T. and Biltine regions during October and the first half of November but the overall situation was reported to be relatively calm by mid November. To 16 November 83,962 ha had been treated.

NORTH-WEST AFRICA

Meteorology

Analysis of Meteosat imagery indicates that widespread light rain fell throughout Morocco and adjacent western parts of the Sahara and Algeria north of 25 degrees in the first decade of November with moderate to heavy falls in northern Morocco. Low pressure systems centred over Spain affected the region in the first and third decades of November directing a strong southerly air flow over the region.

Breeding conditions

Analysis of NOAA/VHRR imagery indicates that suitable breeding conditions are restricted to areas north of approximately 34 degrees in Algeria and Tunisia. In Morocco suitable breeding conditions exist in a belt extending from Agadir to Fez. In Libya conditions were assessed as generally unsuitable. However, it should be noted that lower winter temperatures over northern parts of Algeria, Morocco and Tunisia will probably restrict breeding to the more southerly areas where, as indicated above, conditions do not appear favourable at present.

Locusts

ALGERIA

There was further movement of swarms from the south to the north of Algeria during the summary period. Further small scale invasions of the Tindouf and Adrar areas in November suggests that there was minor movement of swarms from northern Mali, Niger and Mauritania but no major large scale migration into Algeria was evident during the summary period. Widespread control measures were carried out against swarms during the second half of October and the first half of November. In general control measures were concentrated south of the Atlas in the Adrar, Bechar, Tamanrasset and El Bayadh areas although moderate scale control was also undertaken in the Tlemcen area north of the Atlas. By late November the scale of control had declined substantially. To 20 November 130,562 ha had been treated.

MOROCCO

Further swarm invasion of Morocco from the south and south-east occurred during the second half of October and early November. Large swarms were reported in the Souss valley and there was further northerly movement of swarms during November. Control operations continued in the Oudja, Bouarfa, Errachidia, Ouarzazate, Ait Melloul, Tata, Guelmim, Khenifera, Laayoune and Dakhla areas during the summary period. The major control operations were undertaken in the Guelmim, Ait Melloul, Ouarzazate and Tata regions. Between 10 October and 24 November 1,072,000 ha was treated.

TUNISIA

There was an unconfirmed report of scattered locusts in southern Tunisia in second half of the summary period.

EASTERN AFRICA

Meteorology

Analysis of Meteosat imagery suggests that no significant rain fell in northern Ethiopia or along the Red Sea coast of Sudan from the second decade of October onwards.

Breeding conditions

Analysis of NOAA/VHRR imagery indicates a continued decline in areas suitable for breeding in western and central Sudan. However, suitable areas persist south of approximately 14 degrees north particularly in the vicinity of the Chad border. In eastern Sudan conditions remain favourable in the Kassala area but the Red Sea coastal areas of Sudan and northern Ethiopia did not appear to be highly favourable for breeding in the last decade of October with only very small restricted areas of green vegetation observed. The Ogaden region of Ethiopia was assessed as extremely suitable for breeding in late October.

Locusts

SUDAN

Darfur

Substantial infestations of hopper bands, estimated area 53,000 ha, were reported to present mainly in Northern Darfur in late October. Several mature swarms were also reported from both Northern and Southern Darfur in late October. By mid November hopper bands and immature swarms were reported.

Kordofan

Late instar bands and immature swarms were reported in late October from Northern Kordofan. By mid November both mature and immature swarms were present in Northern Kordofan with only small areas of hopper bands remaining.

Khartoum, White Nile and Gezira

Approximately 30,000 ha of hopper bands and immature swarms were reported in late October. By mid November both mature and immature swarms were reported.

Northern

Small infestations of hopper bands were reported in late October. By mid November both mature and immature swarms were reported.

Kassala

Approximately 40,000 ha of hopper bands and immature swarms were reported in late October. Widespread hatching was also reported.

Red Sea

Immature swarms were reported in late October. Laying swarms were reported to have invaded the Tokar Delta area in late October. By mid November small scale hopper band formation was reported.

The general movement of swarms from central Sudan towards the east was reported to have continued during the second half of October. Large scale control measures continued with approximately 846,000 ha treated by mid November.

ETHIOPIA

In the second half of October several swarms ranging in size from 150 to 800 ha were reported to have been controlled in the Adi Ugri, Adi Teclezan, Tera Immi (1501N/3838E) and Wadi Aderbabo (1700N/3900E) areas. The swarm controlled in Wadi Aderbabo was mature. On 21 October an aerial survey of the coastal area from Massawa to Karora found two medium density swarms, 600 and 150 ha in size, in Wadi Falcat (1730N/3850E) and a low density swarm in Wadi Karora. Further unconfirmed reports of swarms were also received from the Eritrea region. On 22 October a small swarmlet was reported from Nefasit (1534N/3906E). In the first decade of November there were further reports of mature and immature swarms to the east and south-east of Asmara and control operations were reported to have intensified. There were several unconfirmed reports of swarms from Tigray province in mid October. However, a subsequent aerial survey failed to detect any swarms.

Control continued throughout the summary period but no details were available.

DJIBOUTI

Hopper bands were reported in the Ali Sabieh and Dikhil districts on 31 October. An immature swarm was controlled south of Assa Gaila (1200N/4240E) on 14 November.

SOMALIA

Aerial surveys of potential breeding areas were conducted during the first half of November but no locusts were found.

KENYA, UGANDA and TANZANIA were reported free of locusts up to 18 November.

NEAR EAST

Meteorology

Analysis of Meteosat imagery indicates that light rain fell along the southern Tihama of Saudi Arabia and the Tihama of the Yemen Arab Republic in the first decade of November. In late October a low pressure area centred over southern Turkey resulted in a strong south-westerly air flow over the Arabian peninsula.

Breeding conditions

Analysis of NOAA/VHRR imagery for October indicates that suitable breeding conditions are present along the Tihama of the Yemen Arab Republic. In Saudi Arabia there appear to be small restricted areas of green vegetation in the southern Tihama but overall conditions do not appear to be very suitable.

Locusts

KINGDOM OF SAUDI ARABIA

Further swarm invasions were reported along the southern Tihama particularly in the Qunfidah-Jizzan area in late October but also in the Mastura (2306N/3850E) and Bisha (2000N/4236E) areas. On 1 November adult locusts at varying densities were observed consistently from 60 km north of Jizzan to Al Qahmah. General hatching was reported to have commenced on 7 November and hopper bands had started to form by mid November but no precise details were available. On 21 November it was estimated that up to 1 million ha were infested and large scale control measures were in progress.

EGYPT

Between 13 and 27 October five mature swarms, ranging in size from 10 to 14 sq. km were reported to have been controlled in the Wadi Sermitai (2205N/3625E) area.

YEMEN ARAB REPUBLIC

On 1 November immature adult groups were reported in the Dhauran (1443N/4412E), Mabar (1446N/4417E) and Dhamar (1435N/4422E) areas. Between 2 and 13 November swarms were reported from the Bagim (1723N/4328E), Thala (1532N/4355E), Majz (1708N/4330E), Sagain (1650N/4327E) and Huth (16154357E) areas. These reports were of both mature and immature swarms with the largest swarm estimated at 90 sq. km

reported from Sagain on 10 November. On 2 November mixed instar hoppers were reported in the Wadi Hayran area and there was also an unsubstantiated report of hatching from El Jawf in the eastern region. Between 14 and 16 November two additional immature swarms were reported from Harif Sufyan (1626N/4422E) and Harad flying east towards the El Jawf area. Further large immature swarms were reported on 19 and 20 November from Maidi and the island of Kamaran. Control operations were undertaken against both hopper bands and swarms during the summary period but no details are available.

KUWAIT

Several swarms were reported along the Kuwait-Iraq border in late October-early November. Small immature groups were seen in the Abdali (2904N/4743E) on 7 November. Small scale control was undertaken but no details are available.

BAHRAIN

Groups of locusts were reported along the north-eastern coast on 1 November.

QATAR

Groups of locusts were reported in the north-east in early November.

OMAN

Scattered low density adults were reported in the Ibri (2314N/5630E) area on 14 November.

IRAQ

A small scale invasion of south-eastern Iraq was reported in late October. A number of immature swarms, some with a very small proportion of maturing adults, and high density groups were reported in the Salman and Samawa areas between 25 October and 6 November. Aerial control was undertaken and by late November the situation was reported calm.

EUROPE

Locusts

UNITED KINGDOM

Scattered locusts were reported from Truro and Plymouth in south-west England and also from the Isles of Scilly on 30 October.

TURKEY

Scattered locusts were reported in southern Turkey in early November.

SOUTH-WEST ASIA

Meteorology

No significant rainfall was reported in the traditional breeding areas during October.

Breeding conditions

Breeding conditions are reported as unsuitable in Pakistan and India. Rain has recently fallen in Iran but low temperatures are likely to delay maturation and breeding.

Locusts

IRAN

A small scale invasion of Iran was reported to have occurred from 31 October onwards. The first reports of high density immature groups were from the Shalamcheh (3029N/4804E) and Bandar Mashahr (3030N/4912E) areas. Additional reports were received of low density adult groups invading the Bushehr (2858N/5048E), Gonaveh (2932N/5030E) and Rig (2929N/5035E) areas on 1 November. Dead locusts were also reported in the Gulf off Bushehr and Gonaveh on 3 November. Between 4 and 8 November there were numerous reports of low density groups and scattered immature locusts in a belt extending from Gonaveh and Bandar Linge on the Gulf eastwards as far as Zad Mahmud (2733N/5512E). Within this general area low density adults were reported from Kangan (2748N/5205E), Lamard (2715N/5305E), Shiraz, Jahran (2829N/5331E), Darab (2848N/5433E), Fasa (2855N/5335E) and Yasuj (3033N/5135E). The largest infestation reported comprised high density adult groups over an area of 6 sq. km near Lamard on 3 November. Small scale control operations were undertaken and up to 19 November 2665 ha were treated.

AFGHANISTAN

On 3 November there was an unconfirmed report of locusts in the Jowand, Qadis, Murghab, Ghormach, Keshk, Qalai and Faryab districts of the western province of Badghis.

PAKISTAN

Scattered adults, maximum density 750 per sq. km, were observed at Nakti (2537N/6611E) on 11 November.

INDIA

In the first half of October scattered adults were reported from 18 localities in the Bikaner, Jodhpur and Jaisalmer districts of Rajasthan with a maximum density of 1250 adults per sq. km observed at Jaimalsar (2807N/7302E) on 13 October.

In the second half of October scattered pockets of hoppers and fledglings were reported from 9 localities in the Barmer and Jaisalmer districts of Rajasthan. In addition low density adults were reported

from from 37 localities with one high density adult group observed at Jhinjhinyali (2613N/7048E) on 23 October. Small scale ground control operations were carried out during October with 216 ha treated.

SOUTH AMERICA AND THE CARIBBEAN

Locusts

CARIBBEAN

A further invasion of many Caribbean islands occurred from 26 October onwards with moderate to high density immature adult groups reported from Barbados, Martinique, Grenada, St. Lucia, St. Croix, St. Vincent and the Grenadines.

A swarm was reported by a ship between St. Lucia and Guyana in early November.

FRENCH GUYANA

Immature adults were reported at Sinnamary, west of Cayenne, in late October.

SURINAM

Further locusts were reported in early November.

FORECAST FOR DECEMBER-JANUARY

In West Africa large scale swarm formation will continue in Senegal and Mauritania until mid December and on a small to moderate scale in Gambia and Guinea Bissau. Swarms forming in Senegal and Mauritania may move in a westerly direction to reinvade Cape Verde during December and also to the south with the movement of the ITCZ. However, there will be a continued risk of migration into North-West Africa associated with low pressure systems over the Azores and Spain. In the rest of the Sahel swarm formation should be complete by late November and migration is likely to occur in a westerly and north-westerly direction. Breeding may occur in northern Mauritania, adjacent western parts of the Sahara and northern Mali if significant rain falls during the forecast period although it is difficult to estimate the potential scale with accuracy. Small scale hatching and band formation is likely to occur in Cape Verde.

In North-West Africa swarms and adult groups present in northern Morocco and Algeria are likely to remain immature through the winter. Small to moderate scale breeding may occur in southern Algeria and adjacent areas of Morocco and western parts of the Sahara. There will be a continued moderate risk of large scale invasions from the south and south-west in December. There will be a moderate risk of invasions of Libya and Tunisia during the forecast period.

In Eastern Africa breeding is likely to continue along the Red Sea coast of Sudan and adjacent areas of south-eastern Egypt and northern Ethiopia during the forecast period. However, the scale of breeding is difficult to predict since it will depend largely on whether significant rain falls in the Red Sea winter breeding areas. Swarms are likely to form in the Red Sea and Kassala areas from late November onwards and there is a moderate risk of migration to the north and north-east.

In the Near East large scale band formation is expected to occur in the coastal Tihama of Saudi Arabia and also, on a lesser scale, in the Yemen Arab Republic in the first half of the forecast period. Swarms are expected to form in these areas from mid December onwards when there will be a renewed risk of migration to the north and north-east. There is also a moderate risk of further invasion of Saudi Arabia and the Yemen Arab Republic by swarms from Sudan and Ethiopia.

In South-West Asia low density adult populations will persist in Iran, Pakistan and India during the forecast period and the situation is expected to remain calm.

In the Caribbean and South America locust numbers are likely to gradually decline over the forecast period.

Rome, 26 November 1988.

