

## **Extended Desert Locust Forecast for Mauritania and adjacent areas**

*November 2006 – May 2007*

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The Desert Locust forecast for the next six months depends primarily on rainfall and temperatures during the period. A combination of above-average rains and higher than normal temperatures would lead to good breeding conditions and rapid locust maturation, allowing locusts to increase more and faster than in normal years. Poor rainfall and low temperatures would hinder locust reproduction and survival, keeping locust numbers relatively low and insignificant.

The World Climate Service (USA) provides DLIS with seasonal six-month predictions that are used with caution to help forecast locust developments. The predictions issued in mid-October for November 2006 to March 2007 suggest that there is a high probability that temperatures will be about 1°C higher than normal over Mauritania north of 19°N during the entire period. Rainfall is expected to be about 175-200% (2-16 mm) of normal in November over Mauritania, Western Sahara and western Algeria, and 125-175% (2-7 mm) of normal over northern Mauritania and Western Sahara in January. Average rainfall is expected in the other months.

The latest WCS predictions suggest that weather conditions will favour at least one more generation of locust breeding in northwest Mauritania that could extend into northern Mauritania and Western Sahara. Fledging of the current generation of breeding is expected to begin as predicted in the first half of November. The new adults could be ready to lay again by the end of the month. These eggs would hatch during the second half of December with fledging during the second part of February. If favourable breeding conditions persist, another generation could occur with laying in mid-March, hatching at the end of the month and fledging in late April. By then, it is unlikely that vegetation will remain sufficiently green in northern Mauritania for adults to remain there, mature and breed again. Consequently, the adults would slowly move south towards the summer breeding areas in southern Mauritania during May.

At the beginning of November, locusts were present in three regions: (1) early and mid-instar hopper groups, small bands and scattered mature adults in Inchiri, (2) late instar hopper groups, small bands and scattered immature adults in the Aoukar roughly between Nouakchott and Tidjikja, and (3) scattered mature adults and isolated hoppers in western Adrar and southwestern Tiris-Zemmour.

This year as normal, summer breeding began in the southeast of Mauritania where rains first occur followed by breeding later in the summer in the centre and west, including the Aoukar region. Adults typically move to the northwest (Inchiri) in the early autumn as vegetation dries out in the summer breeding areas in the south of the country. This probably accounts for the presence of late instar hoppers and newly fledged adults in the Aoukar and the continuation of reports of mature adults and early instar hoppers in Inchiri during October.

Breeding by the recession populations was initially not synchronized; that is, different populations matured and bred at different times. The recent reports of immature adults in the Aoukar are those that bred late in the summer and had recently fledged. As vegetation dries out, the remaining late instar hoppers will concentrate and form a few small groups and bands in the Aoukar. After fledging, most of the adults will move to the northwest although a few could persist in any areas that remain green in the Aoukar.

The current generation of breeding in Inchiri started with laying in late September by adults that were either already present or had moved in from adjacent areas of Trarza, Adrar, Tagant and perhaps Tiris-Zemmour. Reports of copulating adults continued into early November. This indicates that this generation of breeding will extend over a relatively long period with fledging occurring from about the second week of November until mid-December.

Current infestations in Inchiri and the Aoukar will remain mainly scattered with only limited areas of grouping and small band formation. Locust numbers are not expected to increase significantly until at least another generation of breeding occurs; that is, towards the end of this year. Some of the first generation adults could move northwards into Western Sahara during November. Thereafter, low temperatures are expected to restrict northward movements until about February, after which second generation adults could move as far north as the Draa Valley in Morocco. But this would be expected only if ecological conditions were to remain favourable and breeding occurs for the next three months in northwest and northern Mauritania. This is highly unlikely.

If high numbers of adults reach the spring breeding areas along the southern side of the Atlas Mountains in Morocco and Algeria, and assuming that rains fall in March and April, then only one generation of breeding is likely to occur with laying in March, hatching and band formation in April and fledging and swarm formation in May. Any groups and swarms that form and are not controlled will eventually start to move south at the end of spring towards the Sahel. Again, this is highly unlikely.

If breeding continues in northern Mauritania during the spring, the third generation adults would also move south towards the summer breeding areas in Mauritania in May. It is unlikely that a fourth generation of breeding would occur in northern Mauritania unless good rains continued later than normal in the spring.

*Estimated first and last dates of locust development under optimal temperature and ecological conditions*

	1 <sup>st</sup> generation	Late 1 <sup>st</sup> and early 2 <sup>nd</sup> generation	2 <sup>nd</sup> and 3 <sup>rd</sup> generation	4 <sup>th</sup> generation
Location	NW Mau	NW+N Mau	NW+N Mau, MOR	NW+N Mau
Laying	4 <sup>th</sup> week Sep - 4 <sup>th</sup> week Oct	4 <sup>th</sup> week Nov - 1 <sup>st</sup> week Jan	2 <sup>nd</sup> week Mar - 1 <sup>st</sup> week Apr	3 <sup>rd</sup> week May - 1 <sup>st</sup> week Jun
Hatching	2 <sup>nd</sup> week Oct - 1 <sup>st</sup> week Nov	3 <sup>rd</sup> week Dec - 4 <sup>th</sup> week Jan	4 <sup>th</sup> week Mar - 3 <sup>rd</sup> week Apr	4 <sup>th</sup> week May - 3 <sup>rd</sup> week Jun
Fledging	2 <sup>nd</sup> week Nov - 3 <sup>rd</sup> week Dec	3 <sup>rd</sup> week Feb - 3 <sup>rd</sup> week Mar	4 <sup>th</sup> week Apr - 3 <sup>rd</sup> week May	3 <sup>rd</sup> week Jun - 2 <sup>nd</sup> week Jul
Migration	N Mau, W Sah	W Sah, MOR, W ALG	W ALG, Sahel	Sahel
Probability	high	medium-low	low	very low

NW Mauritania: Dakhlet Nouadhibou, Inchiri, western Adrar

N Mauritania: Tiris Zemmour

MOR: Draa Valley and southern side of the Atlas Mountains

W Sah: Western Sahara

W ALG: Tindouf to Bechar on southern side of the Atlas Mountains

Sahel: southern Mauritania, northern Mali, Niger

Desert Locust infestations in Mauritania (5 October – 10 November 2006) as reported by the *Centre de Lutte Antiacridienne* (Nouakchott). Hoppers (blue outline circles) were forming groups and bands (red full circles) in Inchiri and parts of the Aoukar in Trarza. Scattered adults (black crosses) were present in the northwest and parts of the west, centre and north.

