



Locust Watch

Locusts in Caucasus and Central Asia

LOCUST BULLETIN No. 51



FAO - Plant Production and Protection Division (AGP)

15 August 2017

Situation level: THREAT in Russia

Situation level: CAUTION in Kazakhstan (CIT & LMI)

Situation level: CALM in Afghanistan, Armenia, Georgia, Tajikistan and Uzbekistan

General Situation during July 2017 Forecast until mid-September 2017

Hot and dry weather conditions prevailed throughout the region. Moroccan Locust (DMA) life cycle came to an end in southern Central Asian (CA) countries and probably also in Azerbaijan while breeding was in progress in Kazakhstan and Russia. Italian Locust (CIT) fledging started in Russia and occurred in Armenia while mating started in Georgia, in Uzbekistan and probably in Kazakhstan; its natural disappearance started in Tajikistan. Migratory Locust (LMI) fledging started in Uzbekistan, Kazakhstan and Russia. DMA adult populations will eventually disappear at the beginning of the forecast period. CIT life cycle will progressively come to an end from southern to northern countries. LMI adult populations may be present throughout the forecast period. In July, at least 365 000 ha (missing data) were treated in CCA countries, for a total of more 3.6 million ha since the start of the campaign.

Caucasus. DMA life cycle probably came to an end in Azerbaijan. CIT fledging occurred in Armenia and

mating started in Georgia; control operations were carried out on 10 584 ha in these two countries.

Central Asia. DMA adults only were present in July in CA countries, where its life cycle came to an end in the South while mating and egg-laying were in progress in the North. CIT adult disappearance started in Tajikistan while mating was in progress in Uzbekistan and probably in Kazakhstan; fledging started in Russia. LMI fledging started in Uzbekistan, Kazakhstan and Russia. In July, at least 355 000 ha (missing data) were treated against the three locust pests, mainly against CIT.

Weather and Ecological Conditions in July 2017

In Caucasus (Armenia and Georgia), warm and dry weather prevailed. In Central Asia, the weather conditions were very hot in the southern countries and still variable elsewhere; they continued to be suitable for hopper and adult development but vegetation was mostly dry.

In **Caucasus**, the weather was warm and dry in Armenia and Georgia.

In Armenia, the weather was hot with temperature increase of more than 10 °C as compared to June. Average temperatures ranged from 33 to 39 °C in lowlands and from 29 to 36 °C at foothills during the day and from 22 to 28 °C at night.

In Azerbaijan, a delayed report indicated that, in June, the weather was mostly warm and suitable for hopper development. Average daily temperature was of 30/36 °C, reaching a maximum of 32/38 °C at the end of the month. No rain fell except on 10-12 June throughout the country. South-easterly and north-westerly winds prevailed at a speed of 3-5 m/s and up to 15-20 m/s in gusts. The natural vegetation cover was sparse and dry in all traditional locust habitats. Cultivations were at maturity and winter cereal harvest started.

In Georgia, the temperatures ranged from 25 °C to 34 °C, which represented a slight increase as compared to June. The winds had a speed of 2 m/s. No rain fell over locust habitats; consequently, natural vegetation was drying or dry and there were locust attacks on crops, including on vineyards.

In **Central Asia**, the weather was very hot in the southern countries and still variable elsewhere.

In Afghanistan, above-normal temperatures (and warmer than last year) prevailed throughout the country in July with highest temperatures recorded in southern, eastern and northern provinces. Wheat was at the vegetative stage in central provinces, reached maturity in northern and north-eastern provinces and harvest was in progress in eastern, southern and some parts of the southeastern provinces.

In Kazakhstan, variable weather continued to prevail and temperature increase reached up to 8 °C (depending on the regions) as compared to June. In the South, the weather was variable with sunny days and some rains, whose amount ranged from 8 to 29 mm. The average daily temperature ranged from 16.1 to 38 °C with minimum of 10.9 °C (at night) and maximum



of 48 °C. Relative humidity varied from 13 to 91%. South- and north-westerly winds prevailed at a speed of 1-8 m/s and up to 20 m/s in gusts. In the East, the weather was unstable with warm sunny and rainy days (40.8 mm) with storm winds. The average daily temperature was of 20.1 °C with minimum of 13.0 °C (at night) and maximum of 33 °C. Relative humidity was of 63.8%. North-westerly and south-easterly winds prevailed at a speed of 1 m/s and up to 25-34 m/s in gusts. In the West, the weather was variable with sunny days and rains, whose amount ranged from 1.0 to 16.5 mm. The average daily temperature ranged from 16.1 °C to 36.5 °C, with minimum of 12.1 °C and maximum of 42.0 °C. The wind direction was variable with prevailing north- and south-westerly winds at a speed of 0.8-8.0 m/s. In the North, the weather was highly variable with sunny and cool days, cloud cover and rains, whose amount ranged from 8.5 to 96.5 mm. The average daily temperature varied from 13.1 to 26.5 °C with minimum of 7 °C and maximum of 35.0 °C. Relative humidity ranged from 37 to 94%. North- and south-westerly as well as north-easterly winds prevailed at a speed of 1.0-13.0 m/s and up to 31.0 m/s in gusts.

In the Russian Federation, the weather was variable with some local rains. In the Southern and North Caucasian Federal District (FD), the weather was variable with temperatures ranging from 25 to 39 °C and rains and thunderstorms occurring locally. In the southern regions of the Central FD, temperatures were below average, ranging from 17 to 30 °C and some rains fell. In Volga FD, average temperatures ranged from 17 to 32 °C; the weather was partially cloudy with some precipitations, sometimes as thunderstorms, which were in the average. In the Siberian FD, daily temperatures varied from 25 to 33 °C, which is higher than the long-term average. The vegetation was drying out or dry.

In Tajikistan, the temperatures were higher by 3 to 6 °C than last year at the same period. In Khatlon, average daily temperatures exceeded 40/42 °C and were of 28/30° C at night in the valleys; on 10-13 July, there was a strong "Afghan storm". In the valleys of Region of Republican Subordination (RRS), daily temperatures exceeded 38/40° C and were of 22/24° C at night. In Sughd valleys, average daily temperatures exceeded 40/44° C and were of 30/32° C at night.

In Uzbekistan, the weather was hotter in July than in June (increase by up to 9 °C) with temperatures of 41/46 °C during the day and of 28/32 °C at night. In the South, day temperatures ranged from 46 to 48 °C throughout the month while they were of 34/43 °C at foothills and in mountainous areas from mid-month. The vegetation was drying out or dry except at foothills and in mountainous areas where green vegetation persisted.

Area treated in July 2017

Armenia	84 ha
Azerbaijan	25 075 ha (June)
Georgia	10 500 ha
Kazakhstan	160 500 ha
Russia	167 190 ha
Tajikistan	7 117 ha
Uzbekistan	20 000 ha

Locust Situation and Forecast

(see also summary on page 1)

CAUCASUS

Armenia

• SITUATION

During surveys carried out on 18 390 ha, grasshopper and Italian Locust (CIT) presence was observed at an average density of 0-3 individuals/m². In the Ararat Province, CIT density was locally of 5 -10 adults/m² and 84 ha were treated.

• FORECAST

CIT mating and egg-laying will continue in August followed by natural disappearance.



Azerbaijan

• SITUATION

A delayed report indicated that, in June, DMA hopper development came to an end and fledging occurred, followed by adult maturation and beginning of mating, favoured by suitable weather conditions. Consequently, 5th instar hoppers only and immature and mature adults were observed during surveys carried out in the North-west (Djeranchel and Eldar steppes), the South-east (Garasu, Padar and Kudirin plains) and the South (Kharamin plains). Ground control operations using pyrethroids continued in the North-west and the South-east against late instar hoppers and young adults and treated 25 075 ha as of 30th June.

• FORECAST

DMA natural disappearance should have started by the end of July.

Georgia

• SITUATION

In July, during surveys carried out on 100 000 ha in Kakheti (east) and Kvemo Kartli (southeast) regions, CIT late instar hoppers, fledglings as well as immature and mature adults were observed. At the end of the month, only 5th instar hoppers were still present while adults started their maturation (ratio of 80% immature and 20% mature) as well as the breeding process. A total of 10 500 ha were treated by ground of which 5 500 ha in Kakheti and 5 000 ha in Kvemo Kartli.

• FORECAST

CIT mating and egg-laying will continue in August and be followed by the natural disappearance of the species. Control operations will continue during the first half of August in Kakheti and the campaign should be completed by mid-August.

Afghanistan**• SITUATION**

The locust control campaign, which started from April in north and north-eastern provinces (Badakhshan, Baghlan, Balkh, Faryab, Kunduz, Samangan, Sar-i-Pul and Takhar) and in May in the South-west (Badghis, Ghor, Heart), came to an end everywhere in July. Overall, a total of 146 387 ha were treated against locust (95%) and grasshopper infestations using Insect Growth Regulator and pyrethroids. More than 79.5% of that area was treated in five provinces namely Baghlan (25 354 ha), Balkh (31 160 ha), Kunduz (17 800 ha), Samangan (20 106 ha) and Takhar (22 000 ha). As a result of these control operations, no losses were reported in the North and Northeast; however, losses were of about 20-30% in two districts at the south-western edge of the DMA distribution area (Badghis and Ghor), where insecurity and weak cooperation from communities and farmers hampered control operations.

• FORECAST

DMA life cycle will come to an end in all areas it was not yet completed. No further locust development is expected this year.

Kazakhstan**• SITUATION**

During DMA mating and egg-laying surveys carried out on 1 432 700 ha, 828 600 ha were found infested of which 217 400 ha at a density of 5 adults/m², 341 400 ha at a density of 5-10 adults/m² and 269 800 ha at a density exceeding 10 adults/m².

Spring/summer CIT hopper surveys continued mainly in the western half of the country; fledging followed by adult maturation, mating and egg-laying started in July. More than 1.7 million ha were surveyed of which 165 200 ha were infested, including 59 400 ha above the economic threshold (ET). In July, the most infested provinces were Aktobe and Kostanay, where 33 100 ha and 23 600 ha were infested above ET. A total of



59 400 ha were treated.

Asian Migratory Locust (LMI) hopper surveys continued over almost 1.4 million ha of which 163 000 ha were infested, including 88 300 ha (6.3%) above ET. Kostanay and East-Kazakhstan were the most infested provinces (33 400 ha and 29 300 ha above ET, respectively). Fledging started by the end of the month. A total of 101 100 ha were treated against LMI hopper bands.

As a whole, 160 500 ha were treated against CIT and LMI hopper infestations in July.

• FORECAST

After completion of egg-laying, DMA adults will disappear. CIT mating and egg-laying will continue and natural disappearance will start in August. LMI mating and egg-laying will generalize and natural disappearance should start by the end of the forecast period.

Kyrgyzstan**• SITUATION**

No bulletin was received in July. DMA life cycle was probably completed in all provinces. CIT mating and egg-laying should have come to an end and natural disappearance should have started.

• FORECAST

No further locust development is expected this year.

Russian Federation**• SITUATION**

DMA adult development continued and egg-laying started by mid-July. CIT and LMI fledging began by mid and early July respectively mainly in Central, Volga and Far East FDs. During locust surveys, 637 143 ha were found infested mainly by locust hopper bands (up to 95%), which were locally mixed with fledglings and adults. Grasshopper infestations were also present on 1 450 140 ha. As a whole, grasshopper and locust densities were as follows: 0.6-2 hoppers/m² and

0.3-4 adults/m² in the Central FD; 34-310 hoppers /m² and 46-1 000 adults/m² in the Southern FD; 53-500 hoppers/m² and 13-200 adults/m² in the North Caucasus FD; 0.6-15 hoppers/m² and 1.3-12 adults/m² in the Volga FD; 3.5-24 hoppers/m² and 1.6-7 adults/m² in the Ural FD; 7.4-186 hoppers/m² and 2.7-90 adults/m² in the Siberian FD; and 4.6-27 hoppers/m² and 2.3-16 adults/m² in the Far East FD. To be noted that high hopper and adult densities persisted in Southern and North Caucasus FDs. A total of 167 190 ha were treated in July.

• **FORECAST**

DMA natural disappearance will start at the beginning of the forecast period. Mass CIT and LMI adult maturation, mating and egg-laying will occur followed by natural disappearance. The development of other grasshopper species will continue almost everywhere.

Tajikistan

• **SITUATION**

DMA control operations have been completed in Khatlon, Region of Republican Subordination (RRS) and Sughd provinces. DMA summer egg-bed surveys continued in the south and central regions, where 10 to 20 egg-pods/m² were observed. In Sughd region, CIT control operations have been completed and summer egg-bed surveys started. Control operations continued using organophosphate and pyrethroid insecticides. A total of 7 117 ha were treated in July against locust populations, of which 3 084 ha against DMA (Khatlon, RRS and Sughd regions) and 4 033 ha against CIT (Sughd region). In many places, because of back and forth adult movements, repeated control operations were required. No crop damages have been reported during the 2017 anti-locust campaign thanks to timely control operations.

• **FORECAST**

Life cycle of both locust pests will come to an end during the forecast period. DMA and CIT summer egg-bed surveys will continue in August. Results of preliminary DMA flight and egg-laying surveys show



that the 2018 scope of anti-locust work and activities will be similar to 2017.

Turkmenistan

• **SITUATION**

No bulletin was received in July. DMA life cycle was probably completed throughout the country.

• **FORECAST**

No further development is expected this year.

Uzbekistan

• **SITUATION**

DMA life cycle came to an end in early July. CIT mating was observed at the end of July in Aral area and elsewhere. LMI fledging and adult maturation probably occurred in July in areas of previous hopper development. Elsewhere, all lakes and neighboring areas in Karakalpakstan –and therefore traditional LMI habitats over more than 2 million ha of reeds– are still flooded for the 1st time in 10 years. Control operations using pyrethroids (Lambda-cyhalothrin) and neonicotinoids (Imidacloprid) continued in July and a total of 20 000 ha were treated against CIT.

• **FORECAST**

CIT and LMI egg-laying will start followed by natural disappearance.

Announcements

Locust warning levels. A colour-coded scheme indicates the seriousness of the current situation for each of the three main locust pests: green for calm, yellow for caution, orange for threat and red for danger. The scheme is applied to the Locust Watch web page dedicated to the current locust situation (“Locust situation now!”) and to the regional monthly bulletin header. The levels indicate the perceived risk or threat of current locust infestations to crops and appropriate actions are suggested for each level.

Locust reporting. During calm (green) periods, countries should report at least once/month and send standardized information using the national monthly bulletin template. During caution (yellow), threat (orange) and danger (red) periods, often associated with locust outbreaks and upsurges, updates should be sent at least once/week. Affected countries are also encouraged to prepare decadal bulletins summarizing the situation. All information should be sent by e-mail to CCA-Bulletins@fao.org. Monthly information received by the 5th of each month will be included in the CCA Locust Bulletin to be issued by mid-month; otherwise, it will not appear until the next bulletin. Reports should be sent even if no locusts were found or if no surveys were conducted.

July 2017 events and activities

- **Practical Guidelines on locust pests in CCA:** peer-review of the draft.
- **Practical Guidelines on risk reduction related to locust control:** draft (English) still under preparation.
- **Training-of-trainers on locust management:**
 - Last one-day briefing session on locust spraying and risk reduction held to the benefit of 14 national Locust Experts in Naryn, Kyrgyzstan, on 4 July 2017.
 - Refresher course/on-the-job training on locust spraying and risk reduction carried out to the benefit of three Afghan Master-Trainers on 19-22 July 2017 in Georgia (Dedoplistskaro and Signaghi municipalities), with the assistance of the National Food Agency, Georgia.
- **Human Health and Environmental issues:** last field monitoring mission carried out by the Human

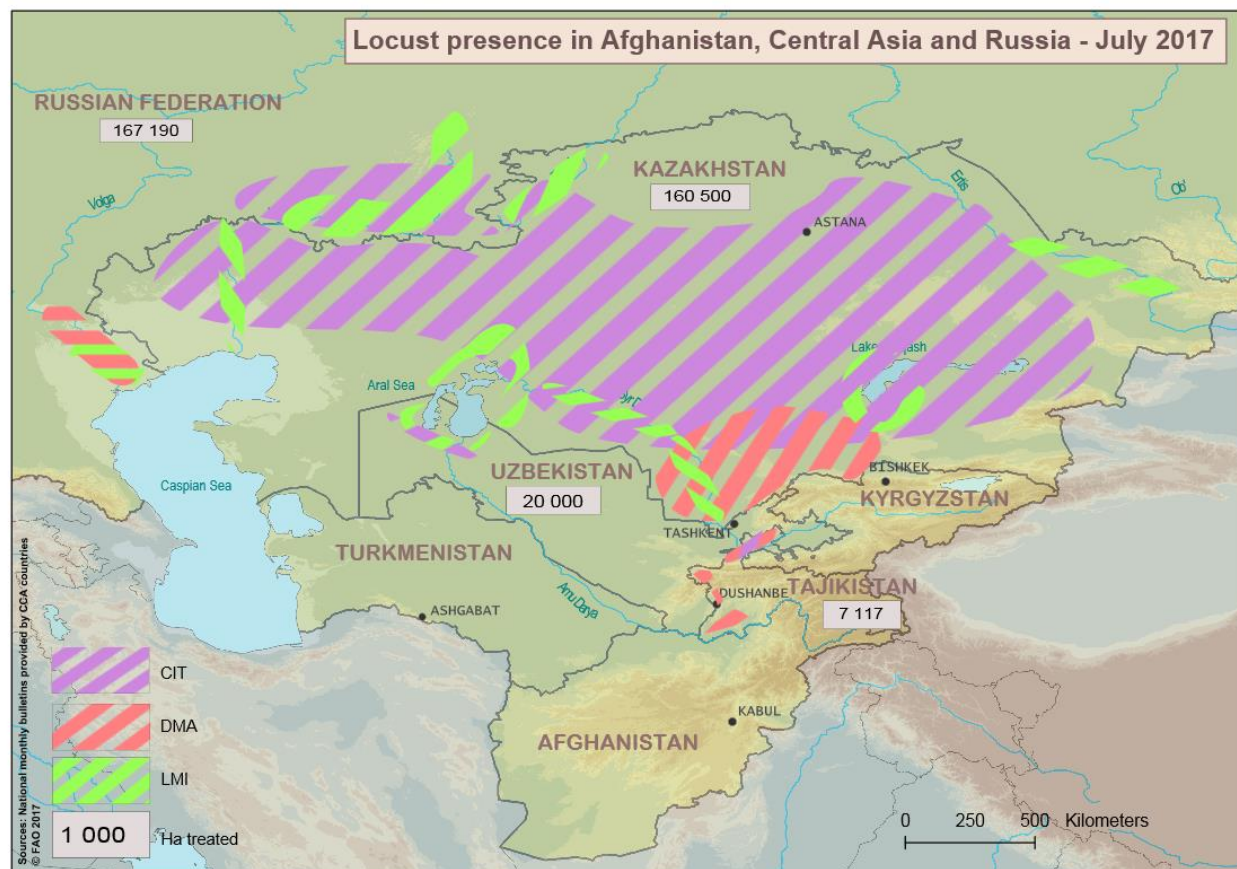


Health and Environmental Monitoring Team in Naryn, Kyrgyzstan, on 11-15 July 2017.

- **Procurement of locust survey and control equipment:** process ongoing in the framework of project GCP/INT/238/JPN to the benefit of Afghanistan, Kyrgyzstan and Tajikistan
- **Annual Technical Workshop on Locusts in CCA:** funds availability confirmed, covering all ten countries, and official agreement of hosting country requested.

Forthcoming events and activities in August 2017

- **Automated System for Data Collection (ASDC) and Caucasus and Central Asia Locust Management (CCALM):** review of ASDC use and CCALM introduction to the benefit of National Locust Experts and CCALM managers scheduled in Kyrgyzstan in early August and in Tajikistan -with the presence of Afghan Locust Experts- in early September 2017.
- **Tablets for ASDC use:** 36 units to be delivered to Afghanistan by mid-August 2017.
- **Procurement of locust survey and control equipment:** process ongoing in the framework of project GCP/INT/238/JPN to the benefit of Afghanistan, Kyrgyzstan and Tajikistan; with the view of permanently improving the quality and appropriateness of the equipment provided, a feedback from field staff will be requested at a later stage.
- **Annual Technical Workshop on Locusts in CCA:** FAO official invitation letters to be issued and arrangements ongoing.



Last updated in August 2017

For more information, visit: www.fao.org/locusts-cca/