



Locust Watch

Locusts in Caucasus and Central Asia

LOCUST BULLETIN No. 52



FAO - Plant Production and Protection Division (AGP)

22 September 2017

Situation level: THREAT in Kyrgyzstan (CIT) and Russia (CIT & LMI)

Situation level: CAUTION in Kazakhstan (CIT & LMI)

Situation level: CALM elsewhere

General Situation during August 2017 Forecast until mid-October 2017

Warm temperatures prevailed everywhere although the weather was variable and rains fell locally in Central Asia; conditions were globally suitable for locust breeding. Moroccan Locust (DMA) breeding continued in Kazakhstan and Russia while its life cycle was completed in Azerbaijan (and already last month in the other countries). Italian Locust (CIT) breeding was in progress in Kazakhstan and Russia and was coming to an end in Kyrgyzstan and Tajikistan. Asian Migratory Locust (LMI) breeding was in progress in Kazakhstan, Russia and Uzbekistan. More than 61 000 ha were treated in August in CCA and more than 4 million ha since the start of the 2017 anti-locust campaigns. No further locust development is expected this year. Surveys will continue in most countries during the coming weeks, shifting from egg-laying to egg-beds.

Caucasus. Remaining DMA adult populations present in **Azerbaijan** required control operations in July (more than 6 000 ha) and August (almost

9 500 ha). CIT adults only were observed in **Armenia** and **Georgia**, where 1 000 ha were treated. No further locust development is expected this year.

Central Asia. DMA and CIT mating and egg-laying continued in **Kazakhstan** and **Russia** while CIT egg-laying was coming to an end in **Kyrgyzstan** and **Tajikistan**; in Kyrgyzstan, treatments were completed in early September only in order to control a CIT outbreak. LMI mating and egg-laying was in progress in Kazakhstan and Russia and probably also in **Uzbekistan**. Locust populations were mature adults in all these above-mentioned countries but hopper bands were still present in Russia, where high hopper and adult densities continued to be reported in two Federal Districts for the third consecutive month; relatively high densities of LMI were also reported in Kazakhstan. In August, 51 000 ha were treated against CIT and LMI.

Weather and Ecological Conditions in August 2017

In **Caucasus**, warm and dry weather prevailed. In **Central Asia**, temperatures were generally high but variable weather was reported in particular in

Kazakhstan, where some rains fell as well as in Kyrgyzstan and in Russia.

In **Caucasus**, warm and dry weather prevailed.

In Armenia, mostly warm and dry weather prevailed. Average temperatures ranged from 10 to 38 °C in lowlands, 9 to 35 °C at foothills and 7 to 33 °C in mountainous areas, which represented a decrease by more than 10 °C for night temperatures and of a few degrees for day ones. Natural vegetation was drying out. Harvesting of cereals, fruit, grapes, vegetables, grains and industrial crops continued. Until suitable weather conditions and pre-sowing works of winter crops started.

In Azerbaijan, a delayed report indicated that, in July, the weather was mostly warm and suitable for adult development. Average daily temperature was of 38/42 °C, reaching a maximum of 40/42 °C, representing an increase of about 5 °C as compared to June. No rain fell during the month. South-easterly and north-westerly winds prevailed at a speed of 3 to 5-7 m/s and up to 10-12 m/s in gusts. Due to lack of rainfall, natural vegetation was sparse and dry in all traditional locust habitats. Cultivations were at maturity and winter cereal were harvested. In August, the weather was very hot with temperatures reaching up to 46/48 °C. Natural vegetation was dry and crops were mature. For the second consecutive month, these weather conditions favored intense locust egg-laying.

In Georgia, the temperatures ranged from 17 °C to 40.2 °C (average of 25 °C). Wind speed was of 1.1 m/s. No rain fell over locust habitats and natural vegetation was dry.

In **Central Asia**, relatively high temperatures prevailed although the weather was variable in some countries.

In Kazakhstan, variable weather continued to prevail and temperature started to slightly decrease as compared to July. In the South, the weather was variable with sunny and cloudy days and some very light showers amounting 2 mm. The average daily



temperature ranged from 14.6 to 39.0 °C with minimum of 8.8 °C (at night) and maximum of 44 °C. Relative humidity varied from 11 to 90%. South- and north-easterly winds prevailed at a speed of 1-10 m/s and up to 26 m/s in gusts. In the East, the weather was unstable with warm sunny and cloudy days and little rain (9.1 mm). The average daily temperature was of 18.5 °C with minimum of 3.0 °C (at night) and maximum of 34 °C. Relative humidity was of 61%. North-westerly and northern winds prevailed at a speed of 1-6 m/s and up to 12 m/s in gusts. In the West, the weather was variable with sunny and cloudy days and some rains, whose amount ranged from 1.0 to 12.4 mm. The average daily temperature ranged from 17.6 °C to 38.5 °C, with minimum of 10.6 °C and maximum of 45.0 °C. The wind direction was variable with prevailing north-easterly and easterly winds at a speed of 0.7-7.0 m/s and up to 13 m/s in gusts. In the North, the weather was unstable with sunny and cloudy days and some rains, whose amount ranged from 3.5 to 21.3 mm. The average daily temperature varied from 13.0 to 26.5 °C with minimum of 8 °C and maximum of 33.0 °C. Relative humidity ranged from 31 to 82%. North-westerly and north-easterly winds prevailed at a speed of 1.0-8.0 m/s and up to 14.0 m/s in gusts.

In Kyrgyzstan, a delayed report indicated that, in July, the average monthly temperature was within the norm throughout the country. In the South, it ranged from 24 to 26 °C in the plains and from 19 to 21 °C at foothills. Daily temperatures varied from 15/20 °C (at night) to 27/38 °C in the plains and from 12/17 °C (at night) to 22/33 °C at foothills. Monthly precipitations were within the norm in the plains (9 to 16 mm) but above the norm at foothills (44 to 71 mm). In the North, the average monthly temperature ranged from 23 to 25 °C. Daily temperatures varied from 14/19 °C (at night) to 26/38 °C. Monthly precipitations were in the norm, varying from 18-25 mm in the plains to 50-62 mm

at foothills. Natural vegetation was dry with a medium cover and a height of 3-5 cm. In August, the average monthly temperature ranged from 20 to 22 °C in the North, being above the norm by 1/2 °C. Daily temperatures varied from 9/14 °C (at night) to 23/34 °C. Monthly precipitations were below the norm (6-12 mm). Natural vegetation was dry with a medium cover and a height of 3-5 cm.

In the Russian Federation, temperatures were higher than normal in some regions. In the southern regions of the Central Federal District (FD), temperatures were above average, ranging from 25 to 32.8 °C, and very little rain fell. In the Northern Caucasus and South FDs, temperatures were also above average, ranging from 23.2 to 36.1 °C; heavy rains and thunderstorms were reported in a number of areas. In Volga FD, average temperatures ranged from 17 to 34 °C; the weather was partially cloudy with almost no precipitation. In the Siberian FD, daily temperatures varied from 16.9 to 31 °C. Dry vegetation was observed in many areas.

In Tajikistan, the temperatures were lower by 1 to 2 °C than in the previous years. Average daily temperature was of 36/38 °C in Khatlon, 31/36 °C in the Region of Republican Subordination (RRS) and 30/34° C in Sughd. This relatively mild weather favoured the normal development of the crops, whose harvesting was in progress or completed (fodder, legumes, vegetable).

Area treated in August 2017

Azerbaijan	6 125 ha (July)
	9 496 ha (August)
Georgia	1 000 ha
Kyrgyzstan	17 047 ha (July)
	4 309 ha (August)
Russia	46 590 ha

Locust Situation and Forecast

(see also summary on page 1)

CAUCASUS

Armenia

• SITUATION



During surveys, grasshoppers and adults of the Italian Locust (CIT) were observed on 40 968 ha at a maximum density of 3 individuals/m². No control operation was required.

• FORECAST

CIT life cycle will be completed and adults will progressively disappear by the end of September. No further development is expected this year.

Azerbaijan

• SITUATION

A delayed report indicated that ground control operations were carried out in July on 6 125 ha against adults of the Moroccan Locust (DMA) in the North-west (Eldar steppes) and South-east (Kudirin plain), with an efficiency of 85-90%. They continued until the 10th August in the same areas where 9 496 ha were treated with a similar efficiency. Warm weather conditions in July and August favoured mating and egg-laying of DMA whose life cycle was coming to an end in August.

• FORECAST

No further locust development is expected this year. Egg-bed surveys will be carried out during the forthcoming weeks.

Georgia

• SITUATION

In August, during surveys carried out on 20 000 ha in Kakheti (east) and Kvemo Kartli (southeast) regions, CIT mature adults only were observed; egg-laying was completed by the end of the month. A total of 1 000 ha were treated by ground of which 900 ha in Kakheti and 100 ha in Kvemo Kartli. The last treatment of the 2017 locust campaign took place on 30th August.

• FORECAST

CIT natural disappearance will take place at the beginning of the forecast period. No further locust development is expected this year.

CENTRAL ASIA

Afghanistan

• SITUATION

No report was received.

• FORECAST

No further locust development is expected this year.

Kazakhstan

• SITUATION

During DMA mating and egg-laying, surveys were carried out on a total area of 1 468 800 ha; 848 400 ha were found infested of which 220 700 ha at a density up to 5 adults/m², 350 800 ha at a density of 5-10 adults/m² and 276 900 ha at a density exceeding 10 adults/m². In addition, DMA egg-bed surveys were carried out on 22 030 ha and egg-pods were found on 14 300 ha, of which 20 ha with a density of up to 1 egg-pod/m², 160 ha with 1-2 egg-pods/m², 6 490 ha with 2-5 egg-pods/m², 4 810 ha with 5-10 egg-pods/m² and 2 820 ha with density exceeding 10 egg-pods/m². Damage to egg-pods ranged from 1 to 12%. DMA populations had almost fully disappeared.

CIT mating and egg-laying surveys were carried out in 13 provinces on a total area of 13 318 700 ha; 1 929 200 ha were found infested, of which 964 200 ha at a density up to 5 adults/m², 678 600 ha at a density of 5-10 adults/m² and 286 400 ha at a density exceeding 10 adults/m². The four most infested provinces were Aktobe, Almaty, Karaganda and West Kazakhstan, where 250 000 to 350 000 ha were infested, representing more than 60% of the whole infested area.

Asian Migratory Locust (LMI) mating and egg-laying surveys were carried out on 2 707 700 ha; 385 600 ha were found infested including 138 800 ha at a density up to 500 adults/ha, 147 300 ha at a density of up to 1 000 adults/ha and 99 500 ha at a density exceeding 1 000 adults/ha.

No control operations were carried out in August.



• FORECAST

Natural disappearance of CIT and LMI populations will occur during the forecast period.

Kyrgyzstan

• SITUATION

A delayed report indicated that locust survey and control operations continued in July throughout the country. During DMA surveys carried out on 1 760 ha in two western provinces, 1 080 ha (61% of the surveyed area) were found infested at a density of 7-35 imagos/m², of which 600 ha in Jalal-Abad and 480 ha in Batken. Egg-laying was completed. All infested areas were treated, i.e. 1 080 ha. During CIT surveys on 13 494 ha in north-western and central provinces, 12 915 ha were found infested (95% of the surveyed area) at a density of 7-30 imagos/m², of which 1 900 ha in Talas and 11 015 ha in Naryn. Mass egg-laying was in progress. In Jalal-Abad, Osh and Batken regions, mixed infestations of CIT and DMA were observed as it was already the case in previous years. All infested areas (1 900 ha) were treated in Talas and 14 067 ha were treated in Naryn; in the latter, control operations were still on-going on 5th August to deal with a major outbreak, a situation which had not occurred since 2004. Ground control operations with vehicle-mounted Micronair using pyrethroids and organophosphates were carried out on a total of 17 047 ha in July.

In August, survey and control operations were carried out on 5 690 ha against CIT adult populations only in north-western and central provinces. A total of 5 008 ha were found infested (88% of the surveyed area) at a density of 7-50 imagos/m², of which 4 110 ha in Talas (where hopper bands and adult groups were observed in some areas for the first time and threatened the crops) and 898 ha in Naryn. Ground control operations similar to those in July were carried out on a total of

4 309 ha in August (2 700 ha in Talas and 1 609 ha in Naryn). Control operations came to an end on 5th September.

• **FORECAST**

No further locust development is expected this year. Egg-bed surveys will take place in October and November.

Russian Federation

• **SITUATION**

In August, locust egg-laying and natural mortality started in most areas of the seven concerned FDs but presence of hopper bands continued to be reported. Egg-laying began at mid-August for DMA and from the end of August for CIT and LMI. As a whole, 683 430 ha were found infested by locusts and more than 2 million ha by grasshoppers during surveys. In August, grasshopper and locust densities were as follows: 0.35-2 hoppers/m² and 0.35-4 adults/m² in the Central FD; 37.2-310 hoppers/m² and 1.25-1 000 adults/m² in the Southern FD; 49.44-500 hoppers/m² and 1.9-1 000 adults/m² in the North Caucasus FD; 0.63-15 hoppers/m² and 0.12-8 adults/m² in the Volga FD; 0.08-37 hoppers/m² and 0.33-27 adults/m² in the Ural FD; 1.49-186 hoppers/m² and 0.64-90 adults/m² in the Siberian FD; and 4.61-27 hoppers/m² and 3.49-16 adults/m² in the Far East FD. To be noted that for the third consecutive month high locust (now mainly adult) densities persisted in Southern and North Caucasus FDs. A total of 46 590 ha were treated in August.

• **FORECAST**

Life cycle of the three locust pests will come to an end during the forecast period. No further development is expected this year.

Tajikistan

• **SITUATION**

Locust control operations came to an end; final field figures indicated that the total area treated during the 2017 campaign was of 104 037 ha, of which



82 967 against DMA and 21 070 against CIT. In August, activities focused on the location of egg-laying sites. As of 31st August, surveys had been conducted on 154 748 ha of which 92 765 ha in Khatlon, 48 343 ha in Sughd, 12 440 ha in RRS and 1 200 ha in Gorno-Badakhshan.

• **FORECAST**

Last locust populations will disappear and no further locust development is expected this year. According to further analysis of field data, there should be no worsening of the locust situation in 2018.

Turkmenistan

• **SITUATION**

No bulletin was received in August.

• **FORECAST**

No further development is expected this year.

Uzbekistan

• **SITUATION**

As per email dated 7th September, no locust activity was reported in August and no control operations were carried out. However, a later email indicated that there was some LMI activity in the Aral Sea area, where water receded, which needed to be further assessed.

• **FORECAST**

No further locust development is expected this year.

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.

August 2017 events and activities

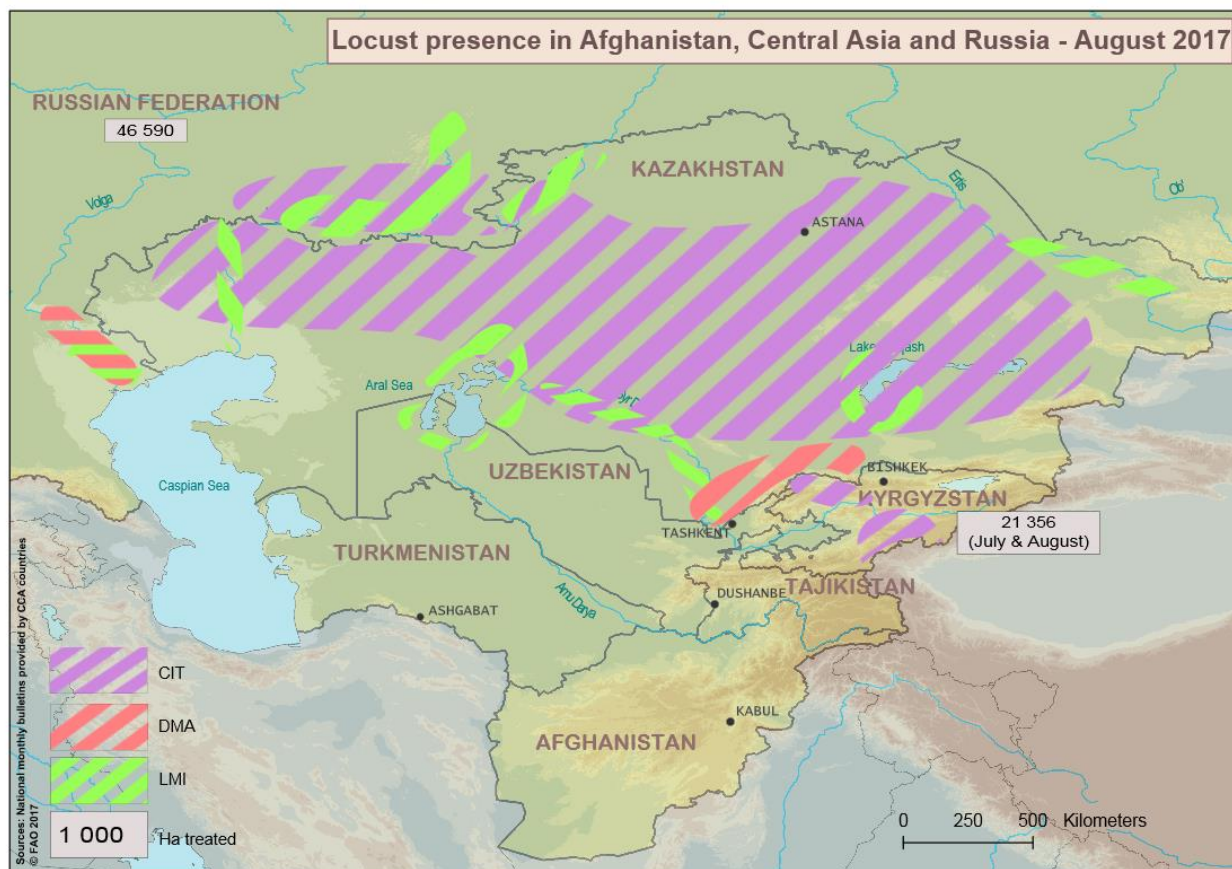
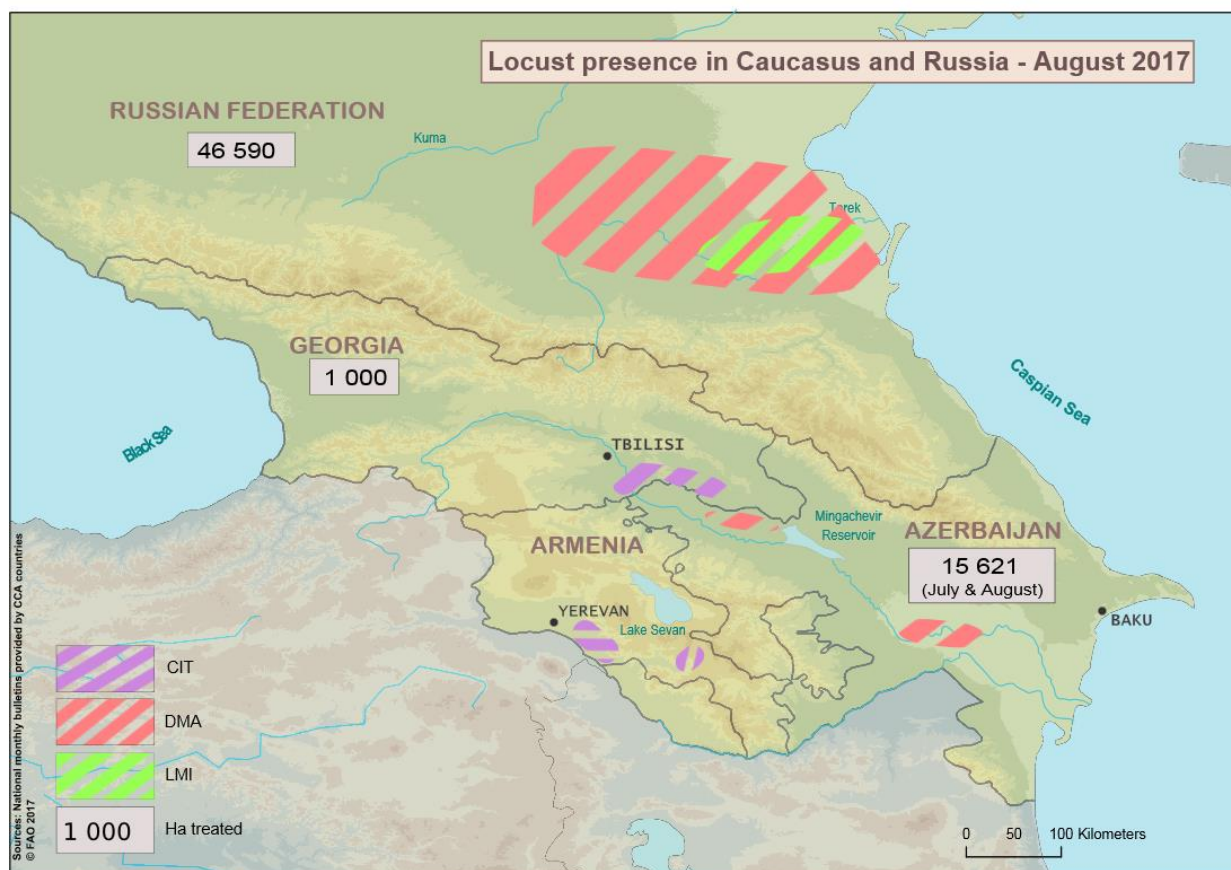
- **Practical Guidelines on locust pests in CCA:** peer-review of the draft.
- **Practical Guidelines on risk reduction related to locust control:** draft (English) still under preparation.
- **Automated System for Data Collection (ASDC) & Caucasus and Central Asia Locust Management (CCALM):** review of ASDC use and CCALM introduction to the benefit of 21 National Locust Experts and CCALM managers held on 7-12 August in Talas and Bishkek, Kyrgyzstan.
- **Extension material on safety measures to be adopted by local populations with respect to locust control:** under preparation for the 2018 locust campaign.
- **Tablets for ASDC use:** 36 units delivered to Afghanistan in mid-August.
- **Procurement of locust survey and control equipment:** process ongoing for last items in the framework of project GCP/INT/238/JPN to the benefit of Afghanistan, Kyrgyzstan and Tajikistan.



- **Annual Technical Workshop on Locusts in CCA:** official agreement of hosting country awaited for issuance of FAO official invitation letters.

Forthcoming events and activities in September 2017

- **Practical Guidelines on locust pests in CCA:** finalization of the document.
- **Practical Guidelines on risk reduction related to locust control:** preparation of the draft (English) to be pursued; drawing to be started.
- **Training-of-trainers on locust management:** national sessions on 1) Locust spraying and pesticide risk reduction and 2) Automated System for Data Collection (ASDC) scheduled to the benefit of Locust Experts during second half of September in Afghanistan.
- **Automated System for Data Collection (ASDC) & Caucasus and Central Asia Locust Management (CCALM):** review of ASDC use and CCALM introduction to the benefit of Afghan and Tajik Locust Experts and CCALM managers scheduled in early September in Dushanbe, Tajikistan.
- **Tablets for ASDC use:** procurement of tablets for Georgia to be started.
- **Procurement of locust survey and control equipment:** process ongoing for last items 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 feed-back 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 to be taken.



Last updated in September 2017

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