



LOCUST BULLETIN No. 93

Winter 2023/2024



FAO - Plant Production and Protection Division (NSP)
FAO - Locusts and Transboundary Plant Pests and Diseases Team (NSPMD)

12 February 2024

Situation level: CALM elsewhere or for the other locust pests

General situation from November 2023 till end of January 2024

Forecast until mid-March 2024

Natural cycles of the three main locust species in the Caucasus and Central Asian (CCA) region – Moroccan Locust (DMA), Italian Locust (CIT) and Asian Migratory Locust (LMI) – ended in late summer/early autumn. The locust eggs laid in the soil will remain in embryonic diapause until hatching in the spring. During the forecast period, hatching of DMA may occur in the southern parts of Central Asia (Afghanistan, Tajikistan and Uzbekistan). No hatching of any species is expected in other parts of CCA.

Overview on the 2023 national locust campaigns

In CCA overall 51.4 million ha were surveyed in 2023, which is slightly higher (2.4%) compared to 2022 (50.2 million ha). Only in Azerbaijan, the surveyed area significantly decreased, while in other countries it was at the same level or higher than in 2022.

Locust infestations in 2023 (11 362 818 ha) were 2.6 times higher than in 2022 (4.3 million ha). This was mainly due to a significant increase in Kazakhstan (four times) and the Russian Federation (almost twice). Hence the treated areas of 2 763 720 ha in 2023 were also higher by 42% compared to the 2022 campaign (1 948 561 ha).

Areas surveyed in 2023 and 2022 in hectares (ha) and comparison (%)

Country	2023	2022	Difference
Afghanistan	No data	No data	n/a
Armenia	60 000	60 000	0
Azerbaijan	58 454	150 403	↓61%
Georgia	297 000	215 000	↑38%
Kazakhstan	37 663 056	37 900 000	↓0.6%
Kyrgyzstan	90 780	69 935	↑30%
Russian Federation	11 663 450	10 525 720	↑11%
Tajikistan	568 465	562 618	↑1%
Turkmenistan	171 396	148 654	↑15%
Uzbekistan	846 400	601 300	↑40%
Total	51 419 001	50 233 630	↑2.4%

Areas infested in 2023 and 2022 (ha) & comparison (%)

Country	2023	2022	Difference
Afghanistan	No data	460	n/a
Armenia	0	24 500	↓
Azerbaijan	24 098	29 195	↓17%
Georgia	89 000	105 000	↓15%
Kazakhstan	7 659 217	1 877 974	↑308%
Kyrgyzstan	63 950	51 480	↑24%
Russian Federation	2 843 280	1 580 970	↑80%
Tajikistan	129 021	131 919	↓2%
Turkmenistan	45 152	38 701	↑17%
Uzbekistan	509 100	415 900	↑22%
Total	11 362 818	4 300 099	↑164%

Areas treated in 2023 (ha) & comparison to 2022 (%)

Country	2023	2022	Difference
Afghanistan	42 762 (+28 116 mechanically)	22 595	↑89%
Armenia	1 350	2 275	↓41%
Azerbaijan	10 816	29 195	↓63%
Georgia	83 900	99 960	↓16%
Kazakhstan	1 615 923	975 300	↑65%
Kyrgyzstan	63 010	51 480	↑22%
Russian Federation	247 770	205 970	↑20%
Tajikistan	129 021	117 070	↑10%
Turkmenistan	45 152	38 701	↑16%
Uzbekistan	495 900	406 015	↑22%
Total	2 763 720	1 948 561	↑42%

In the three Caucasus countries, a total of 96 066 ha was treated in 2023, which is 27% lower as compared to 2022 (131 430 ha), due to intensive control operations during previous campaigns as well as unfavourable weather conditions during hopper development. No locusts, but only grasshoppers in some areas with densities below the economic threshold, were observed in Armenia. No economic densities of the LMI were observed in Azerbaijan (the only country where the pest is present in the subregion).

In the Russian Federation, 247 770 ha were controlled, which represents an increase by 20% with respect to 2022 (205 970 ha).

In Central Asia, the treated areas experienced an increase of 50%, reaching 2.4 million in 2023 (against 1.6 million ha in 2022). This increase especially concerned Kazakhstan, with 1 615 923 ha treated in 2023, against 975 300 ha in 2022 (representing an increase of 66%), due to continuous hot and dry weather during CIT hopper period. Similarly, favourable weather conditions resulted in an increase of DMA- and CIT-infested areas in other Central Asian countries. As a result, compared to 2022, the 2023 treated areas augmented by 10% in Tajikistan, 16% in Turkmenistan and 22% in Kyrgyzstan and Uzbekistan. Treated areas against LMI in 2023 were similar to the previous year in Kazakhstan and in the Russian Federation. However, very low infestations, below the economic threshold, were observed in Uzbekistan. In Afghanistan, the treated area reached 42 762 ha (+89%), the substantial increase with respect to 2022 being due to particularly low treatments (22 595 ha) that year; additionally, about 28 000 ha were controlled mechanically in 2023.



Forecast for the 2024 national locust campaigns

The below preliminary figures for the forecasted areas of treatment in 2024 were presented by the countries at the Technical Workshop on locusts in CCA held in November 2023 in Bishkek, Kyrgyzstan. They will be refined based on the results of the early spring egg-pods surveys, which will be conducted in most of the countries. According to these preliminary figures, the total area to be treated in CCA in 2024 is 3 980 035 ha, showing an increase by approximately 44% (i.e. 1 216 315 ha higher) as compared to 2023. The largest increase is expected in the Russian Federation (75%), followed by Turkmenistan (66%), Kazakhstan (57%), and Uzbekistan (17%). In the other countries, the forecasted areas to be treated in 2024 are expected to be close to the treated areas in 2023, except for Georgia where a further decrease is expected (-23%).

Forecasted areas to be treated in 2024

Country	ha
Afghanistan	70 000 - 80 000
Armenia	2 000
Azerbaijan	15 000
Georgia	65 000
Kazakhstan	2 538 035
Kyrgyzstan	65 000
Russian Federation	434 050
Tajikistan	124 550
Turkmenistan	75 000
Uzbekistan	581 400
Total	3 980 035

Weather and ecological conditions in November 2023 – January 2024

The winter weather in the Central Asian (CA) region was unusual, as it was warmer and with lower precipitations than the climatic norms. Although during the second decade of December, snowfalls resulted in drop-down of the temperature in most of the central and northern parts of CA, the temperature in the valleys of the southern parts remained above zero Celsius until the end of January. Similarly, the temperature in the Caucasus region was higher than the norm and the precipitations were lower. These weather conditions in the winter could potentially result in cooler early spring, in such cases leading to delayed hatching of locusts. The weather in most parts of the Russian Federation generally was close to the climatic norm, with higher precipitation observed in the central part of the country.

Announcements

Locust warning levels. A color-coded scheme indicates 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 1st of each month will be included in the CCA Locust Bulletin to be issued during the first week of the 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.

Events and activities from November 2023 to January 2024

- **Technical Workshop on locusts in CCA** held in Bishkek, Kyrgyzstan, on 20-24 November 2023 with nine CCA countries (all except Afghanistan) and representatives from the Japan International Cooperation Agency (JICA) and the United States Agency for



International Development (USAID).

- **Fourth Project Steering Committee of the “Project for Improvement of Locust Management” (GCP/INT/384/JCA)** to the benefit of Central Asian countries held in Bishkek, Kyrgyzstan, on 23 November 2023 (in hybrid mode) with all stakeholders.
- **Publications:**
 - **Monograph on the Moroccan Locust:** published (<https://www.fao.org/3/cc7159ru/cc7159ru.pdf>).
 - **Practical Guidelines on the three locust pests in CCA:** Turkmen version published (<https://www.fao.org/3/cb0879tk/cb0879tk.pdf>) and English version finalized.
 - **Other publications** delivered to Azerbaijan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan, including:
 - Leaflet “Locust control: Ultra-Low Volume vs Full Volume Spraying”** (<https://www.fao.org/3/cc2513en/cc2513en.pdf>)
 - Leaflet and poster on biopesticides use** (<http://www.fao.org/3/cc4176en/cc4176en.pdf> & <https://www.fao.org/3/cc4173en/cc4173en.pdf>)
 - Posters on safety measures associated with locust control, i.e. on Personal Protective Equipment** (<https://www.fao.org/3/cc4174en/cc4174en.pdf>) and on management of empty containers of pesticides used in locust control (<https://www.fao.org/3/cc4172en/cc4172en.pdf>).
- **Human Health and Environmental Monitoring Teams work:** Action Plan for the 2023 campaign received from Georgia (three missions scheduled in May-August), Kyrgyzstan (five missions in April-June) and Tajikistan (first set of mission in February/March).
- **Procurement:**
 - **Equipment delivered** (GCP/GLO/917/USA and GCP/INT/384/JCA): double-cabin pick-up vehicles to Georgia, Turkmenistan and Uzbekistan, Information Technology (IT) equipment to Kyrgyzstan, replacement of windows on minibuses for Tajikistan.
 - **Equipment delivered in-country and yet to be handed-over** (GCP/GLO/917/USA): pick-up vehicle for Armenia.



- **Procurement in progress** (GCP/GLO/917/USA, GCP/INT/384/JCA, OSRO/AFG/132/NOR and FAO Regular Programme), at various stages: biopesticides for Afghanistan, Azerbaijan, Kyrgyzstan, Tajikistan and Uzbekistan; Ultra-Low Volume (ULV) sprayers and pesticides for Afghanistan; tablets for Tajikistan and Turkmenistan; IT equipment for Armenia (laptops) and Kyrgyzstan (cameras and printers); Camping equipment for Afghanistan and Armenia; Personal Protective Equipment (PPE) for Afghanistan, Armenia and Azerbaijan; pick-up vehicles for Azerbaijan, Kyrgyzstan and Turkmenistan.
- **Preparatory actions** in progress for activities to be implemented during the 2024 national locust campaigns, as per annual work plan of the Programme.

Forthcoming events and activities in February/ March 2024

- **Monthly bulletins on locust and anti-locust situations:** first national monthly bulletin (reporting on the month of March) expected from all CCA countries by 5 April 2024 and first regional one to be issued in mid-April.
- **Training sessions:**
 - **Training on locust monitoring and information management, including ASDC and CCALM** (delivered by FAO experts):
 - o Afghanistan: 5-8 February, online
 - o Tajikistan: 26 February-1 March, Bokhtar
 - o Turkmenistan: 4-8 March, Ashgabat
 - o Kyrgyzstan: 25-29 March, Bishkek
 - **Training on ULV spraying and pesticide risk reduction** (delivered by FAO experts):
 - o Afghanistan: 19-28 February, Mazar-i-Sharif
 - **ToT National and briefing sessions** (delivered by Master-Trainers):
 - o Uzbekistan: Four national sessions scheduled on 5-7 February in Uchkuduk, Navoi, 13-15 February in Termez, Surkhandaryo, 19-21 February in Jizzakh and 25-27 February in Muynak, Karakalpakstan.

- o Georgia: First national sessions (out of two) scheduled on 1-10 March in Kakheti.
- o Workplan expected as soon as possible from Armenia, Azerbaijan, Turkmenistan.
- **Cross-border survey (CBS):** CBS between Tajikistan and Uzbekistan, scheduled on 2-6 April in southern region including in adjacent areas to Afghanistan, and on 23-27 April in northern ones, under preparation.
- **Publications:**
 - **Monograph on the Moroccan Locust:** to be printed and dispatched.
 - **Practical Guidelines on the three locust pests in CCA:** Turkmen version to be printed and dispatched; English version to be published.
 - **Leaflet “Locust control: Ultra-Low Volume vs Full Volume Spraying”, Leaflet and poster on biopesticides use, Posters on safety measures associated with locust control:** to be printed and delivered for Afghanistan and Armenia.
- **Annual GIS Workshop** scheduled online on 13 March 2024 (nominations expected by 25 February).
- **Human Health and Environmental Monitoring Teams:**
 - **Action Plan** for 2024 expected from Azerbaijan;
 - **Tajikistan:** as part of the first set of missions, four missions scheduled on 5-8 February and 12-14 February in Vakhsh and Kulob, Khatlon, on 4-6 March in DRS and on 11-14 March in Sughd.
 - **Turkmenistan and Uzbekistan: online meetings** to be held with a view to set up the teams.
- **Procurement ongoing, with expected delivery of:** biopesticides for Afghanistan, Azerbaijan, Kyrgyzstan, Tajikistan and Uzbekistan, tablets for Tajikistan and Turkmenistan, and ULV sprayers for Afghanistan.