

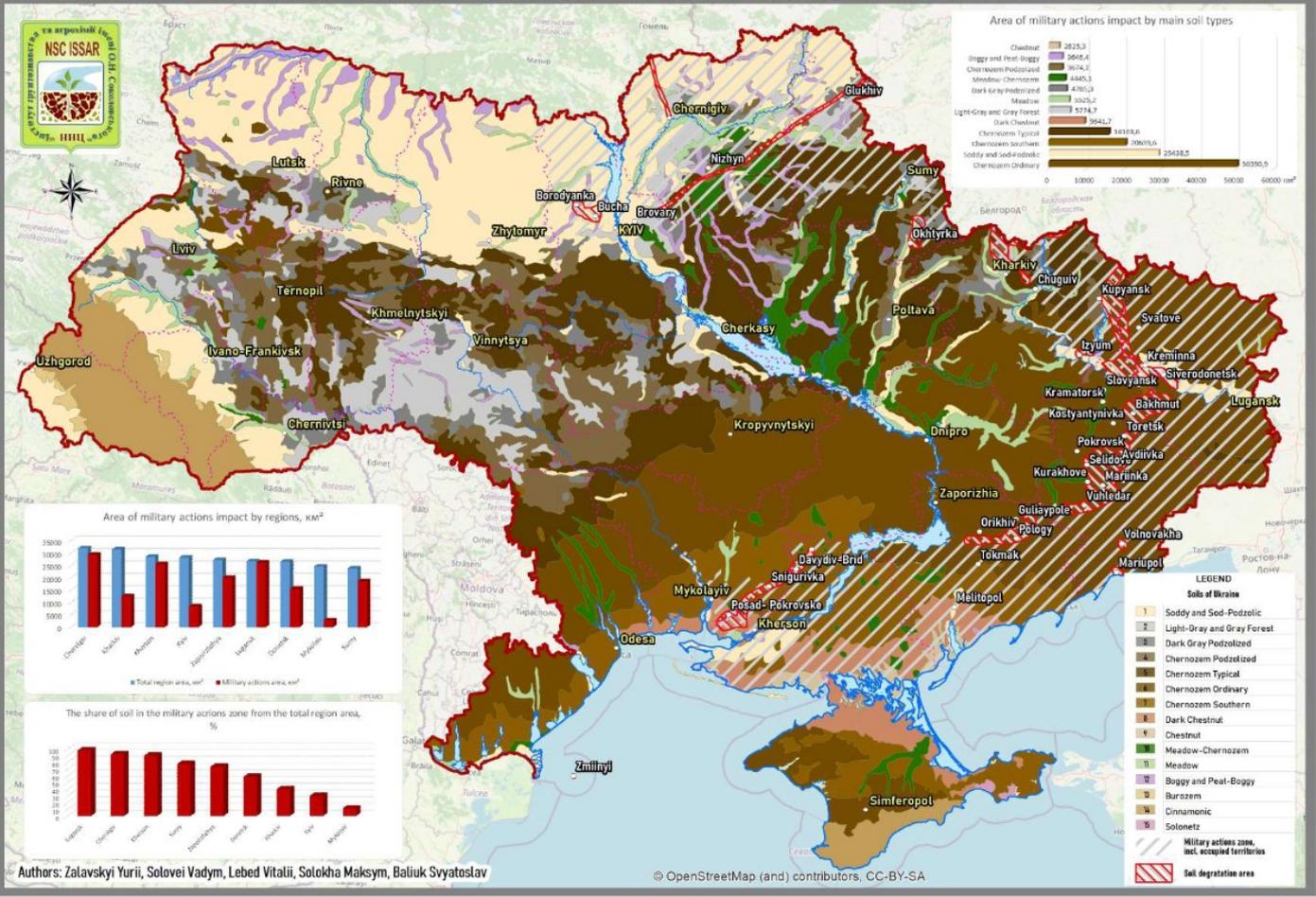


National Scientific Center
"Institute for Soil Science and Agrochemistry Research named after
O.N. Sokolovsky"

WAR IMPACT ON THE UKRAINIAN AGRICULTURAL SOIL

Arkadiy LEVIN,
Deputy GSP Focal Point for Ukraine
12th EUROPEAN SOIL PARTNERSHIP PLENARY MEETING, 07/03/2025

WAR IMPACT ON THE SOIL COVER of UKRAINE



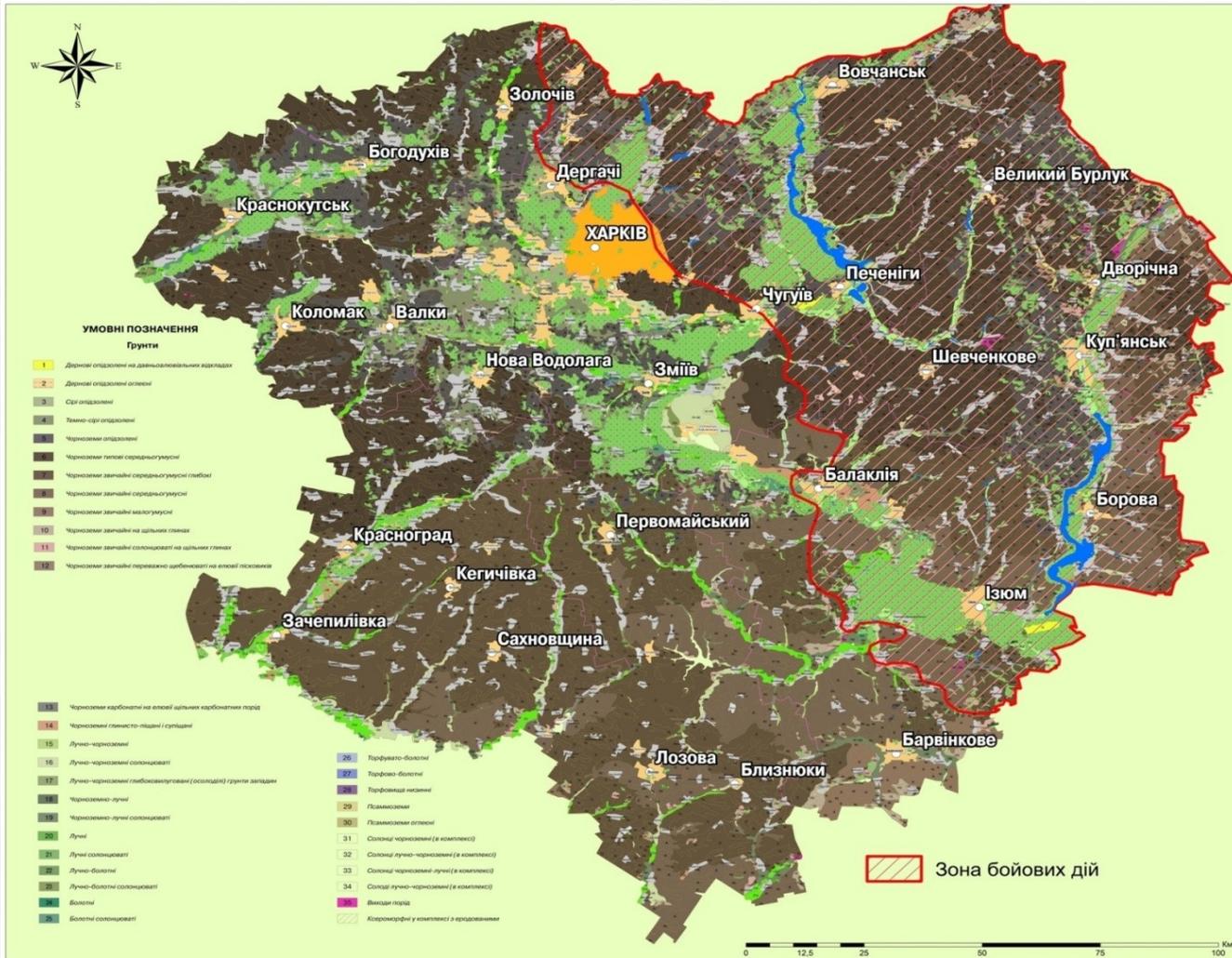
Authors: Zalavskiy Yurii, Solovei Vadym, Lebed Vitalii, Solokha Maksym, Baliuk Svyatoslav

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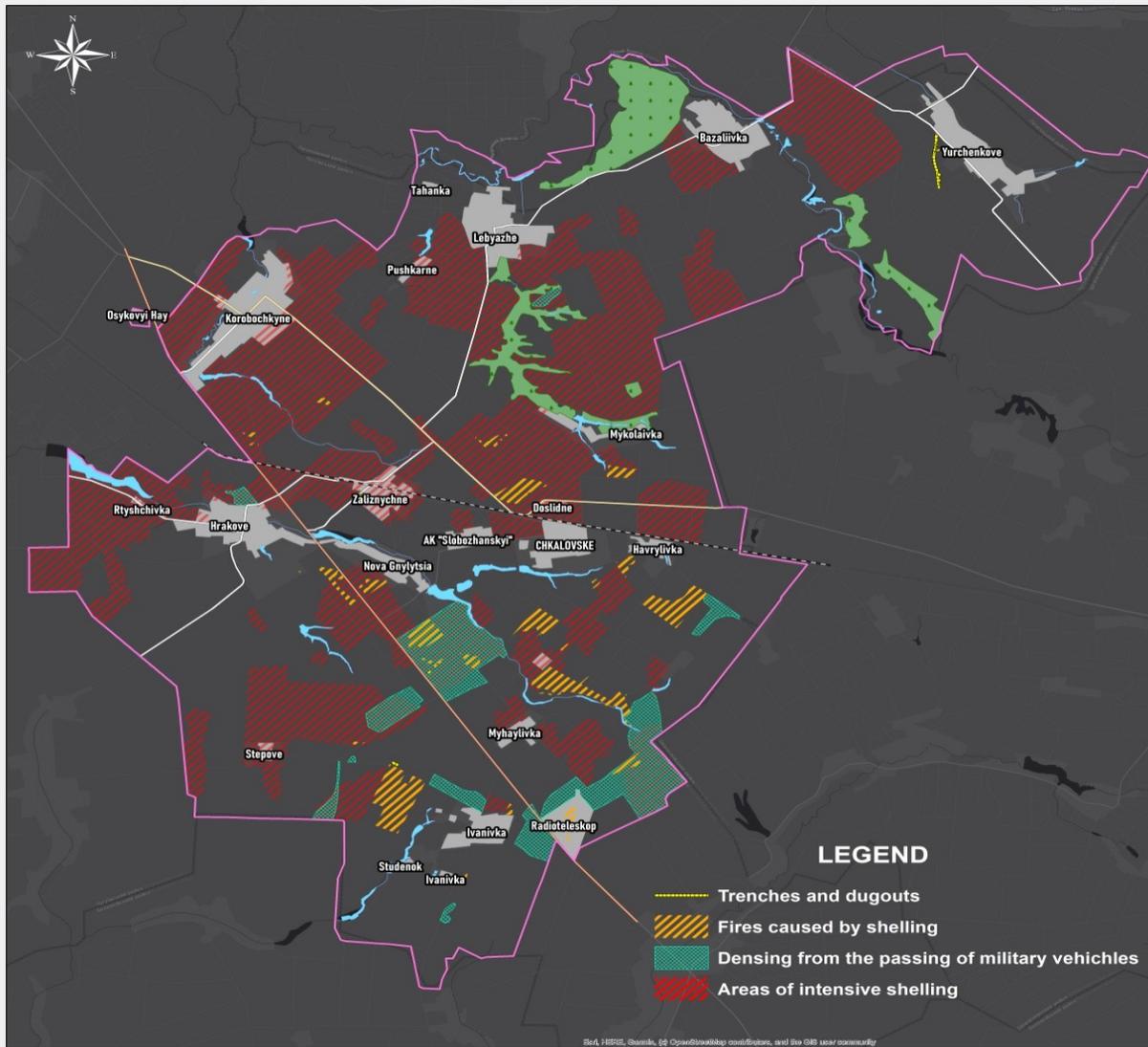
The war affected 14.5 million hectares of the country's agricultural land, including 9.5 million hectares of chernozems

ҐРУНТОВІ РЕСУРСИ ХАРКІВСЬКОЇ ОБЛАСТІ В ЗОНІ ВОЄННИХ ДІЙ

1 : 250 000



Soil resources of the Kharkiv region under the influence of military operations



The different kinds of military actions impact on the soil cover of the Chkalovska territorial community of the Kharkiv oblast (after the end of active fightings on September 2022)



Examples of military impact on soils: explosion craters, traces of heavy military equipment, trenches

Authors of the photo collage: V. Lebed, A. Levin



Examples of military impact on soils: fires from hostilities, the results of equipment explosions, destroyed forest shelterbelts

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Examples of military impact on soils: remains of destroyed military equipment, debris after battles

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Impact of war degradation of Ukraine's soils on national and global food security

The military degradation of Ukraine's soils has dire consequences for national and global food security.

Preliminary NSC ISSAR estimates indicate that annual grain production losses from soil degradation and temporary land occupation range from 10 to 15 million tons.

This is equivalent to losing food supplies for 77–115 million people, based on FAO's average annual consumption rate of 130 kg per person .

Examples of the last NSC ISSAR soil monographs and articles

Soil cover of Ukraine in the conditions of hostilities: state, challenges, activities for soil restoration: monograph, 2024

Ecological and toxicological condition of militarily degraded chernozems: A case study of the Chkalovska territorial community, 2024

State and tasks of scientific support for soil resource management at the stage of armed aggression and post-war reconstruction: monograph, 2023

Harmonization of the National Soil Classification with the WRB 2014–2022. Guiding Principles. Handbook, 2023

Conceptual approaches to the restoration of soils damaged by the armed aggression: monograph, 2024.

CURRENT PROJECTS ON THE SURVEY AND RESTORATION OF THE WAR-AFFECTED UKRAINIAN SOILS

1. GLOBAL LEVEL

FAO and World Food Program (WFP) Project on demining and rehabilitation of war-affected agricultural land for small farmers.

One project of soil survey has already finished for the territory of several Ukrainian regions (2023-2024).

Next project is being discussed now.

2. EUROPEAN LEVEL

Pilot projects for practical rehabilitation of war-damaged soil cover in Kharkiv region is being discussed with Spanish partners

3. NATIONAL LEVEL

Project of the National Research Fund of Ukraine: WAR AND CHORNOZEMS on Assessment of the impact of armed aggression on the state of black soils finished in August 2024.

Several dozen national scientific projects on different aspects of military soil degradation are being implemented within the framework of the Academy of Agrarian Sciences Program

Some perspective European soil survey and restoration projects for war-affected Ukrainian soils

- Creation in Ukraine of several Living Labs for support of soil health rehabilitation technology implementation for war-damage land plots;
- European support of Ukrainian infrastructure development to accelerate and improve the quality of field survey and analytical work with war-affected contaminated/degraded soils;
- International support of the reparations system for the compensation of damage and losses caused to the Ukrainian land and soil resources as a result of the armed aggression of the Russian Federation;
- Support of creation in Ukraine of an effective system of modern monitoring of the soil cover
- Implementation of pilot projects for practical rehabilitation of war-damaged soil cover in different regions;
- Preparing and implementation of the “Marshall Plan” for the large scale post-war restoration of Ukrainian soil.

Author thanks the NSC ISSAR colleagues for the illustrative material used in the presentation.

Thank you for attention!

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