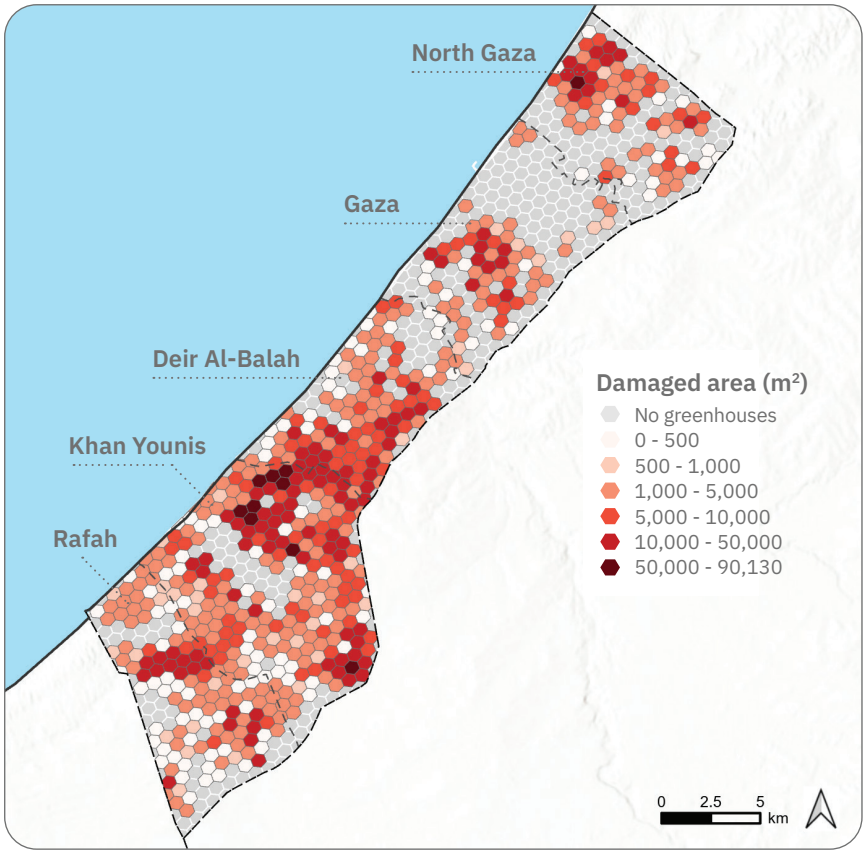
Food and Agriculture Organization of the United Nations

unitar United Nations Institute for Training and Research

UNOSAT United Nations Satellite Centre

Damage to greenhouses due to the conflict in the Gaza Strip as of 23 April 2024

Damaged area of greenhouses in the Gaza Strip



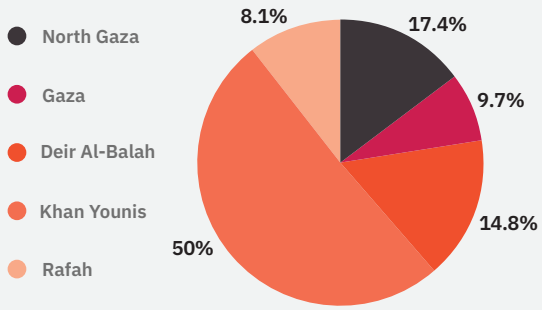
Greenhouse damage assessment

Utilising a baseline greenhouse layer prepared by FAO in 2021 and very high-resolution satellite imagery*, UNOSAT updated the baseline for 2023, prior to the recent conflict escalation, and conducted an assessment of the number and area of greenhouses in the Gaza Strip.

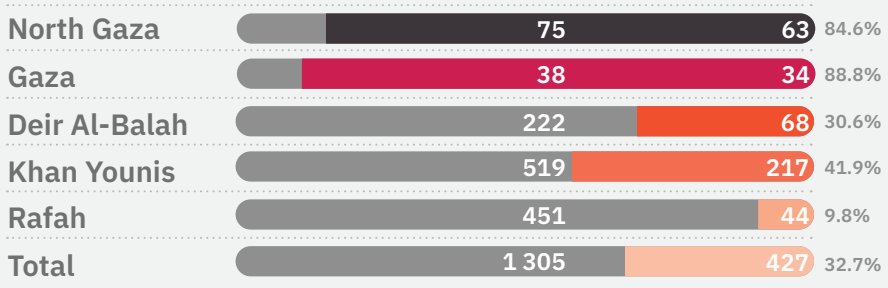
WorldView-2 (50 cm) and WorldView-3 (30 cm) imagery from 1 May 2023, 10 May 2023 and 18 September 2023 were used for pre-conflict imagery. A thorough evaluation of damage to greenhouses was performed, comparing pre-conflict imagery with high-resolution Worldview-2 imagery (50cm) from 23 April 2024.

The area of damaged greenhouses was calculated by overlaying the greenhouse distribution layer with the damage layer (damage proxy map). The grid depicts the damaged area of greenhouses in each tile. The graph below shows the proportion of the damage to the total greenhouses area by governorate.

Damage distribution



Damaged greenhouses area (ha**) by governorate



Key messages

1. **An area of 427 ha of greenhouses was damaged.**
2. **The governorate of Khan Younis had the largest area of damaged greenhouses in ha (217 ha, 41.9% of all greenhouses).**
3. **The governorate of Gaza had the largest proportion of damaged greenhouses (34 ha; 88.8% of all greenhouses).**

* The assessment conducted in Feb 2024 used a baseline prepared in 2021. For this assessment, the baseline was updated for 2023 and therefore the total green house area is slightly different (2.2%) and may include nurseries and other types of greenhouses.

** To convert to the locally used unit of dunums, divide by 10 (1 ha is equal to 10 dunums).

Input data was comprised of available satellite imagery, ancillary data and remote sensing analysis for the period without field validation.
This assessment was conducted by the Geospatial Unit at the Land and Water Division (NSL) of FAO and will be further complemented with additional field assessments and use of very high-resolution imagery.
The boundaries and names shown, and the designations used on these map(s) do not express any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers and boundaries. Dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Some rights reserved. This work is available under a CC BY-NC-SA 3.0 IGO licence

© FAO, 2024
CC9770EN/1/02.24