

This initial quantification of conflict generated debris in the Gaza Strip is derived from a UNOSAT Comprehensive Damage Assessment using imagery from 4 April 2025, in conjunction with updated building footprint as of May 2023 based on the national statistical office data. Damaged building footprints were enriched through zonal statistics with an above surface height model, derived from the difference between a Digital Terrain Model (SRTM) and a Digital Surface Model (ALOS World 3D) as provided by the European Commission in the GHS-Built H product.


For modeling purposes, minimum building height and average story height were considered to be 3m. Each built sq. meter is considered to have generated 1 tonne of debris.

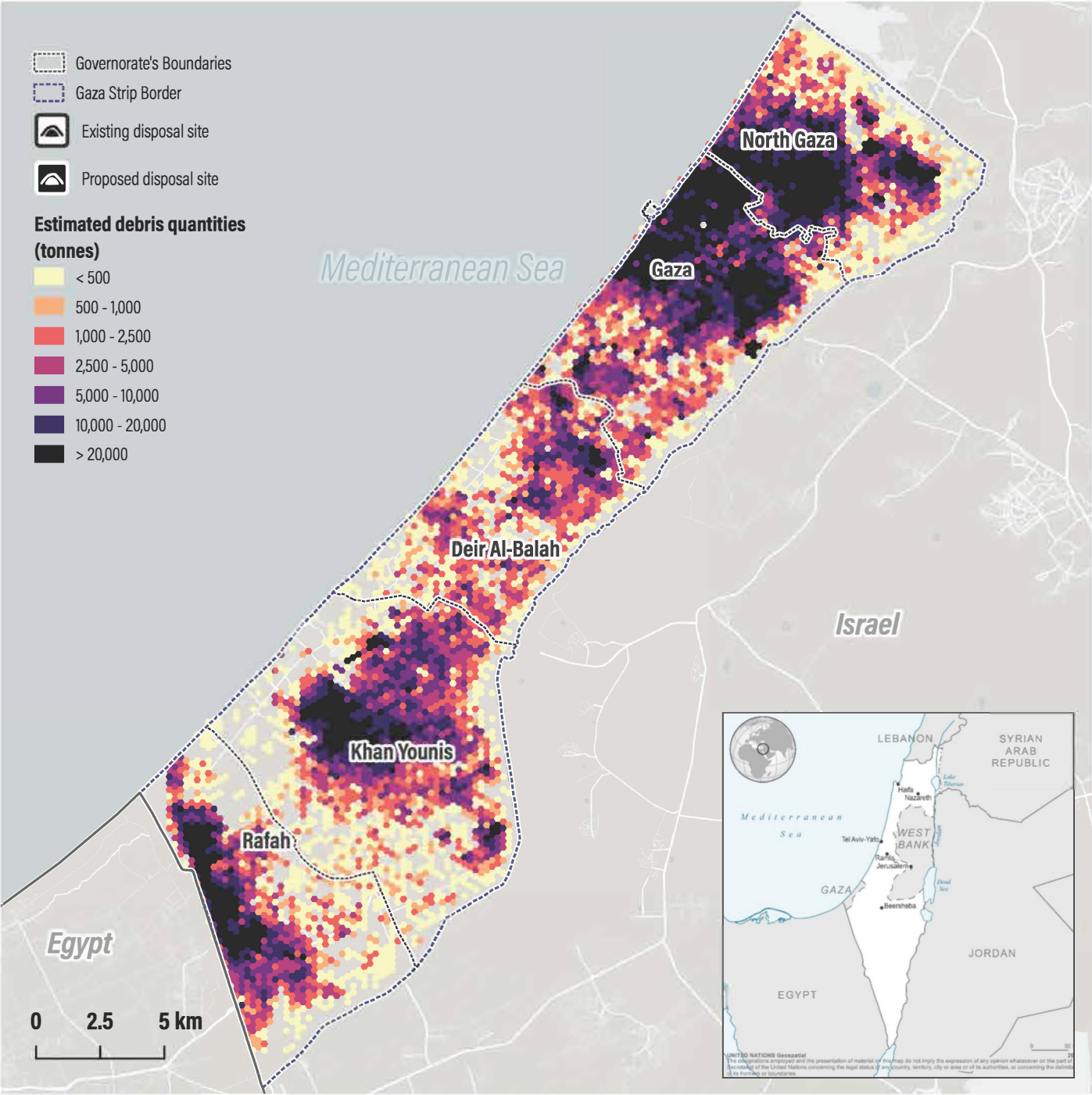
For visualization and modelling purposes, results were aggregated into an H3 hexagonal grid where each cell is 250m wide.

North Gaza	11,640,389 t
Gaza	16,971,886 t
Deir Al-Balah	2,820,374 t
Khan Younis	8,825,255 t
Rafah	6,503,788 t
Damaged Roads	6,705,178 t
Total	53,466,870 t

The debris generated by the conflict increased from 22,930,000 tonnes on 7 January 2024 to 53,466,870 tonnes by 4 April 2025, marking a 133% rise over 15 months.

The most significant increase was observed in Rafah at 2,156%, while Khan Younis and Deir Al-Balah saw increases of 173% and 135% respectively. Notably, Gaza Governorate recorded the highest total amount of debris, with a 81% increase during the same period, followed by North Gaza, at an 107% increase.

 Datum: WGS 1984
Coordinate System: Universal Transverse Mercator 36N

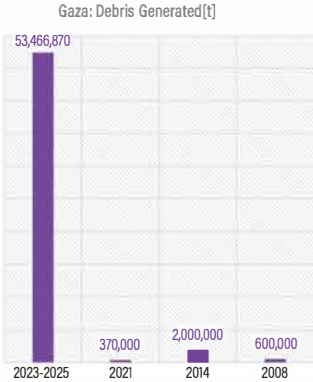


Debris management
Preliminary outputs

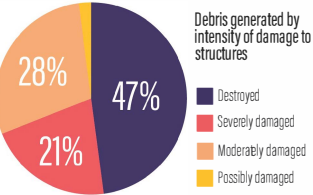
Total debris quantity (metric tonnes) **53,466,870**

According to UNOSAT damage assessment, a total of 174,526 structures were damaged in the Gaza Strip as of 4 April 2025. Of these, 70,436 (40%) were destroyed, 18,588 (10%) severely damaged, 51,962 (30%) moderately damaged and 33,540 (20%) possibly damaged. This corresponds to approximately 70 per cent of the total structures in the Gaza Strip.

So far, debris generated by the current conflict is 18 times more than the combined sum of all debris generated by other conflicts since 2008. For each 1 sqm in the Gaza Strip, there is over 383 kg of debris.



This preliminary analysis has not yet been validated in the field and is appropriate for general planning of debris operational responses and related humanitarian action in the Gaza Strip.



The pie chart above shows the debris generated per number of buildings, categorized by the extent of damage. For example, while the 'destroyed' buildings represent 40% of the affected buildings, they account for 47% of the total debris generated.