

This initial quantification of conflict generated debris in the Gaza Strip is derived from a UNOSAT Comprehensive Damage Assessment using imagery from 1 April 2024, 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 modelling 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.

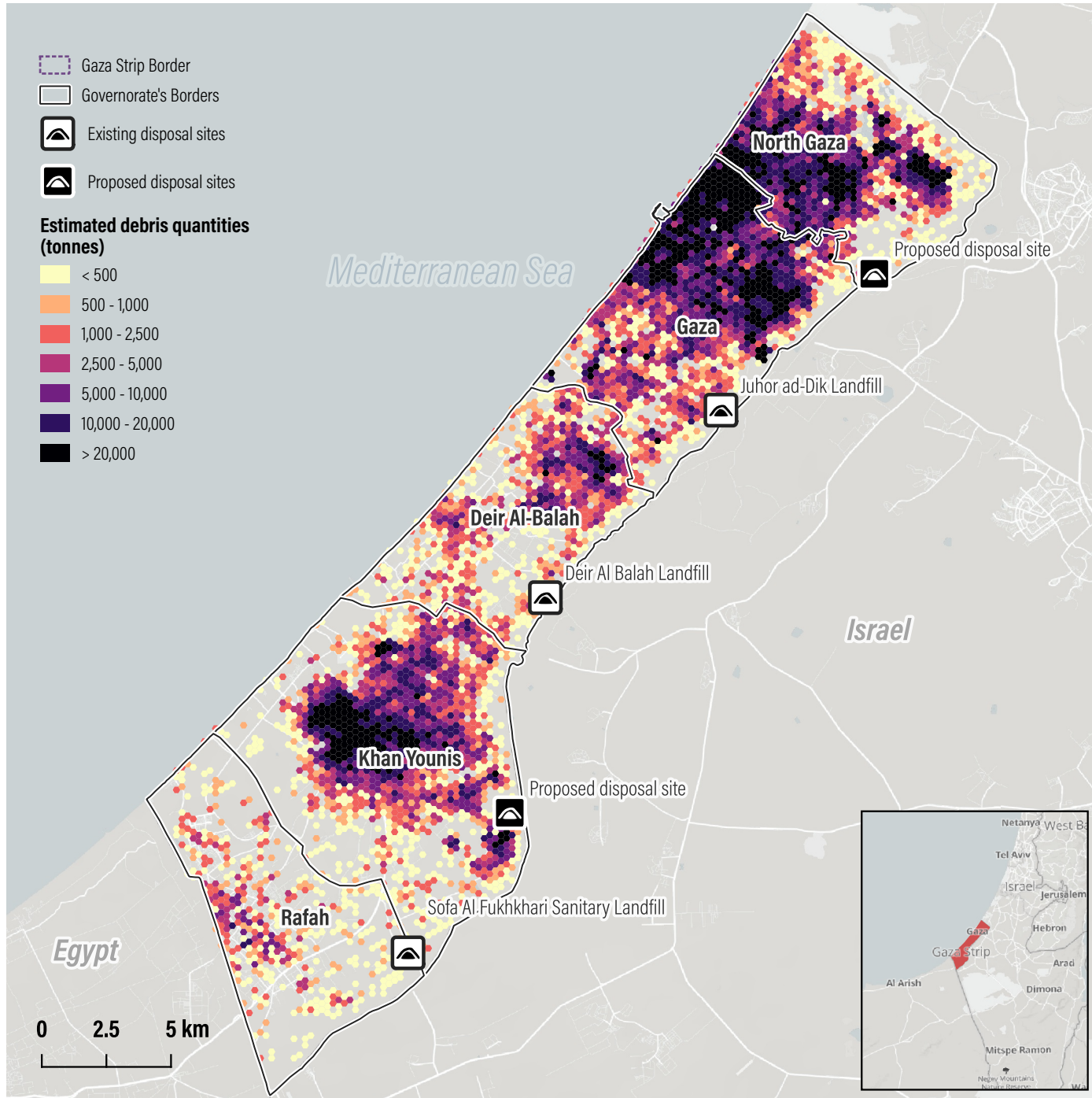
Debris generated in each governorate:

North Gaza	8,256,241 t
Gaza	14,749,051 t
Deir Al-Balah	2,057,064 t
Khan Younis	8,580,187 t
Rafah	530,115 t
Damaged Roads	3,600,000 t

**Total 37,772,658 t**

The debris generated by the conflict increased from 22,930,000 tons on 7 January 2024 to 37,772,658 tons by 1 April 2024, marking a 64% rise over 3 months.

The most significant increase was observed in Khan Younis at 165%, while Deir Al-Balah and Rafah saw increases of 71% and 83%, respectively. Notably, Gaza Governorate recorded the highest total amount of debris, with a 57% increase during the same period.



**Estimated debris quantities (tonnes)**

- < 500
- 500 - 1,000
- 1,000 - 2,500
- 2,500 - 5,000
- 5,000 - 10,000
- 10,000 - 20,000
- > 20,000

Gaza Strip Border  
 Governorate's Borders  
 Existing disposal sites  
 Proposed disposal sites

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

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

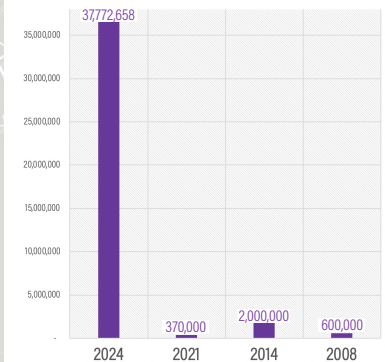
## Debris management Preliminary outputs

Total debris quantity (tonnes) **37,772,658**

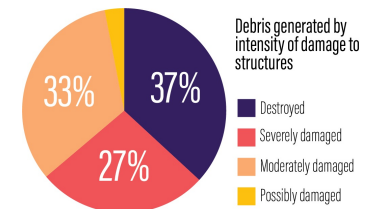
According to UNOSAT damage assessment, a total of 123,706 structures were damaged in the Gaza Strip as of 1 April 2024. Of these, 34,115 (27%) were destroyed, 17,055 (13%) severely damaged, 42,659 (34%) moderately damaged and 29,877 (24%) possibly damaged. This corresponds to approximately 50 per cent of the total structures in the Gaza Strip.

So far, debris generated by the current conflict is 14 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 102 kg of debris.

Gaza: Debris Generated[t]



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 27% of the affected buildings, they account for 37% of the total debris generated.