

This initial quantification of conflict generated debris in the Gaza Strip is derived from UNOSAT Comprehensive Damage Assessment from 7 January 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.

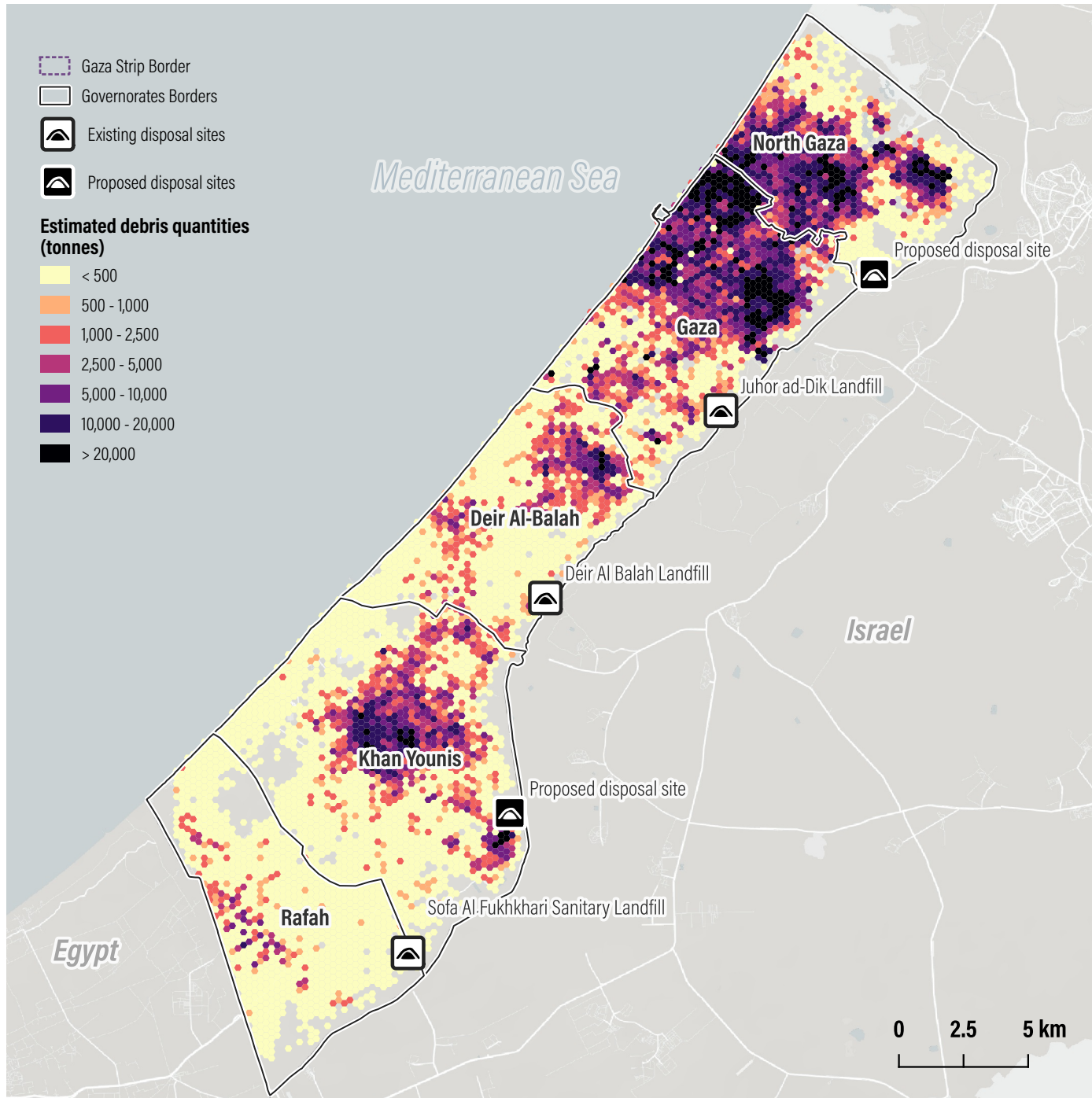
Debris generated in each governorate:

North Gaza	5,690,900 t
Gaza	9,435,000 t
Deir Al-Balah	1,207,400 t
Khan Younis	3,238,200 t
Rafah	289,400 t
Damaged Roads	3,200,000 t

Total 22,900,000 t



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



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

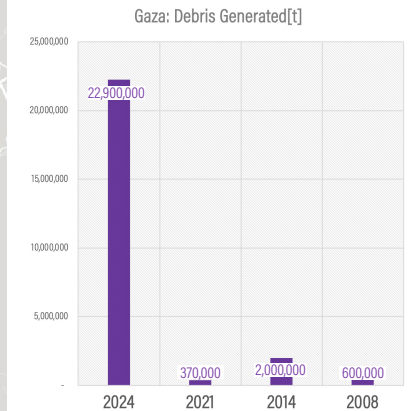
Gaza Strip Border
 Governorates Borders
 Existing disposal sites
 Proposed disposal sites

Debris management Preliminary outputs

Total debris quantity (tonnes) **22,900,000**

According to UNOSAT damage assessment, a total of 69,147 structures were damaged in the Gaza Strip as of 7 January 2024. Of these, 22,130 (32%) were destroyed, 14,066 (20%) severely damaged and 32,950 (47%) moderately damaged. This corresponds to approximately 30 per cent of the total structures in the Gaza Strip.

So far, debris generated by the current conflict is nearly 8 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 63 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.

