

This initial quantification of conflict generated debris in the Gaza Strip is derived from a UNOSAT Comprehensive Damage Assessment using imagery from 29 February 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.

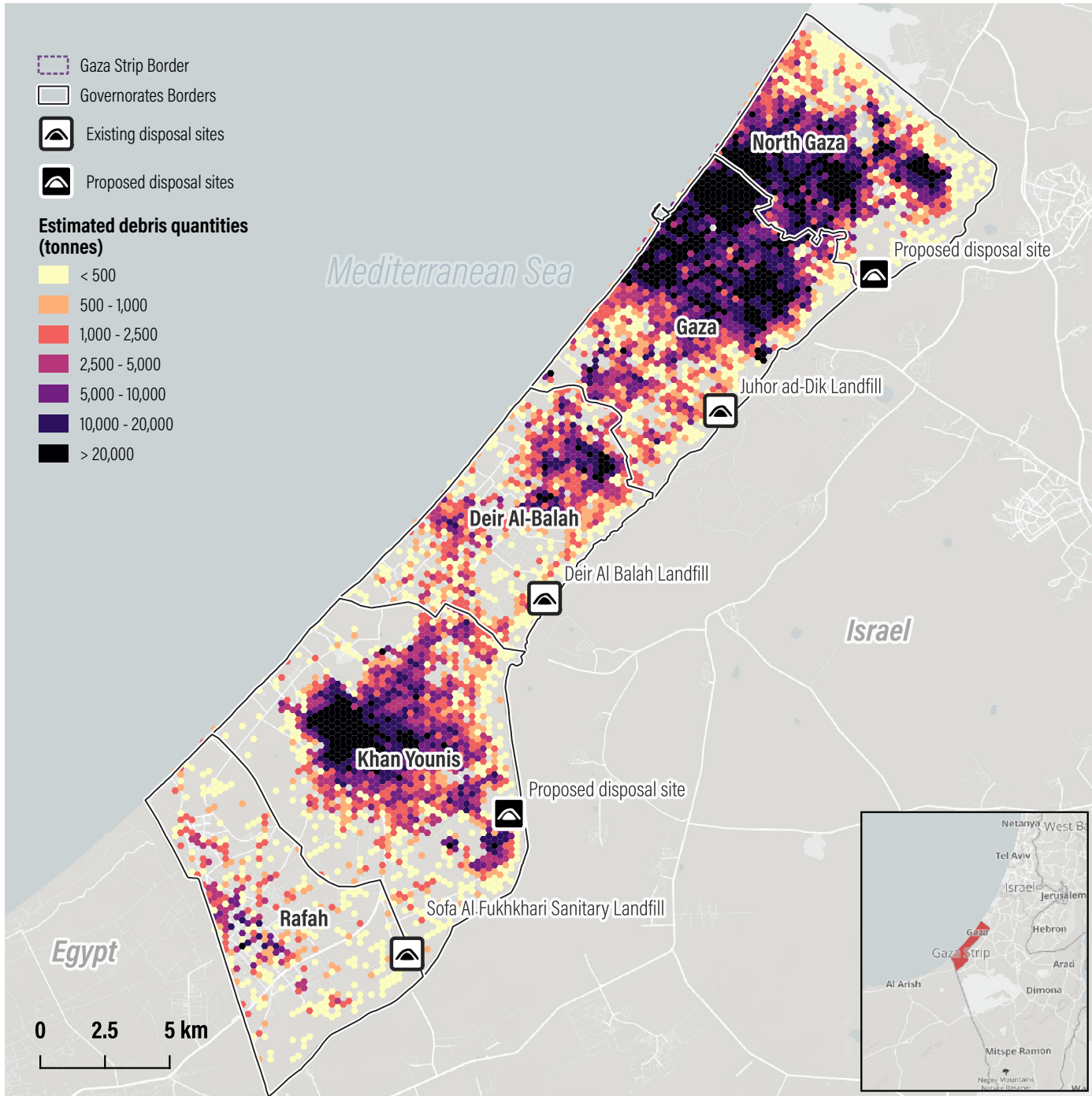
For visualization and modelling purposes, results were aggregated into an H3 hexagonal grid where each cell is 250m wide.

Debris generated in each governorate:

North Gaza	8,670,900 t
Gaza	15,262,200 t
Deir Al-Balah	2,125,300 t
Khan Younis	7690,000 t
Rafah	509,500 t
Damaged Roads	3,200,000 t
Total	37,460,000 t

The debris generated by the conflict increased from 22,930,000 tons on 7 January 2024 to 37,460,200 tons by 29 February 2024, marking a 63% rise over 7 weeks.

The most significant increase was observed in Khan Younis at 138%, while Deir Al-Balah and Rafah each saw increases of 76%. Notably, Gaza Governorate recorded the highest total amount of debris, with a 62% increase during the same period.

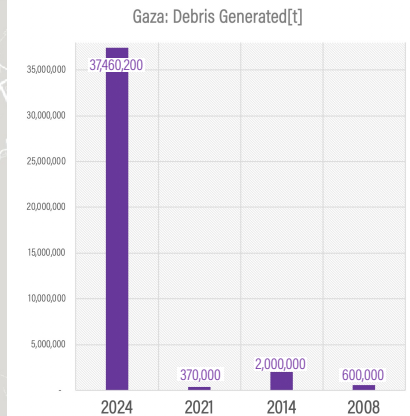


Debris management Preliminary outputs

Total debris quantity (tonnes) **37,460,200**

According to UNOSAT damage assessment, a total of 88,868 structures were damaged in the Gaza Strip as of 29 February 2024. Of these, 31,198 (35%) were destroyed, 16,908 (19%) severely damaged and 40,762 (45%) moderately damaged. This corresponds to approximately 35 per cent of the total structures in the Gaza Strip.

So far, debris generated by the current conflict is 12 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.



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.

