SOURCE FILE

# MAPPING THE MARCH 2026 ESCALATION

## WHERE THE DESTRUCTION CONCENTRATES IN SOUTHERN LEBANON, THE BEKAA, AND DAHIEH, 5 MARCH – 29 APRIL 2026

**CORE GROUP**

**Date Issued:** 8 May 2026

**Prepared By:** Core Group — Strategic Analysis Unit

## I. KEY JUDGMENTS

### KJ-01 HIGH CONFIDENCE

The destruction concentrates on a small set of named villages, not a wide regional saturation. Four villages in the Bent Jbeil district carry the heaviest damage: Aitaroun (963 buildings damaged, 32% of its stock), Beit Lif (294 buildings, 39%), Bent Jbayl town itself (802 buildings, 20%), and Rachaf (149 buildings, 43%). Three villages in Marjaayoun district complete the saturation cluster: Meiss el-Jabal (819 buildings, 21%), Taybet Matjaayoun (737, 27%), and Qantara (199 buildings, 22% of stock, 66 at severe), where the village was destroyed with its bridge on 26 March. These seven villages alone hold 31% of southern Lebanon's verified damage on 1.7% of its building stock.

### KJ-02 HIGH CONFIDENCE

The Bekaa took roughly one-tenth the damage rate of southern Lebanon. 407 buildings in 41 cadastres show triangulated damage, 18 of them at the severe tier. The pattern is dispersed rather than concentrated: West Bekaa, where the Sohmor and Yohmor frontline runs, holds the highest local rate (0.63%), still well below the southern frontline. Every Bekaa cadastre received at least one strike; the strike-to-damage ratio reads as supply-line interdiction rather than saturation bombardment.

### KJ-03 HIGH CONFIDENCE

Dahieh proper, Beirut's Hezbollah-majority southern suburbs, took 936 newly-damaged buildings during the March 2026 window on top of the rubble already on the ground from the 2024 war. Bir el Abed (203 buildings, 2%) and Haret Hreik (218 buildings, 1.7%) anchor the 2026 overlay. The 8 April Beirut mass-strike day (357 killed nationally; 100+ airstrikes; central Beirut hit without warning) produced a substantial fraction of the late-cohort damage growth in the Dahieh sample, which totals 936 buildings at 0.98% of stock, 31 at the severe tier.

### KJ-04 MEDIUM-HIGH CONFIDENCE

Schools, mosques, and hospitals took damage at rates several times higher than the building-level damage rate of the same areas. Schools in southern Lebanon registered triangulated damage at 33% of sampled facilities, mosques at 21%; in the Dahieh sample, schools at 16%, water and sewage at 63%. Verified-severe damage to named facilities includes the Salah Ghandour Hospital (Bent Jbayl town), the Saida Palace of Justice, the Saida Technical Institute, the Imam al-Rida Mosque (in Qantara, the village destroyed on 26 March), the Al-Khadra Mosque in Sour, the Al-Qaim Mosque in Haret Hreik, the Sacred Heart

Hospital in Baabda, and the Nabatie Wastewater Treatment Plant. The April-period strike sequence on the Tibnine Governmental Hospital (15-16 April) and the four-paramedic killing in Mayfadoun (15 April) extend the same pattern into the post-active-escalation window.

**KJ-05** MEDIUM CONFIDENCE

The damage map describes the territory the IDF formalised through the post-ceasefire Yellow Line designation. The verified-damage cluster runs continuously along the southern border, from Beit Lif in the west through Aitaroun, Aita ash-Shaab, and Yaroun to the Marjaayoun salient (Houla, Markaba, Meiss el-Jabal, Khiyam, Taybet Matjaayoun, Aadaysseh, Qantara). The 5-10 km Yellow Line zone declared by the IDF in week 7 and the 55-village no-go list issued in week 8 enclose almost exactly the cadastres carrying the highest damage rates. The targeting cleared the territory the buffer encloses, and the buffer codified the cleared territory.

**KJ-06** HIGH CONFIDENCE

The damage maps onto a displacement and casualty crisis bracketed by the 16 April ceasefire that did not produce a stable post-escalation environment. Formal-shelter occupancy peaked at 141,000 on 16 April; 30,000 returned within 48 hours of the ceasefire onset, but 10,000 of those returnees came back to shelters by 24 April, citing uninhabitable housing and ongoing insecurity. The Ministry of Public Health recorded 2,491 killed and 7,719 wounded by 25 April since the war start. Five of six Litani crossings were destroyed between 13 and 26 March, with the sixth (Khardali) hit only on its access roads; an estimated 150,000 people south of the river lost reliable north-south movement. No bridge was reconstructed during the 13-day post-ceasefire window. The Tibnine Governmental Hospital triple-tap on 15-16 April put the last large hospital south of the river out of operation. By cohort close, 55 border villages were under formal IDF no-go designation and 1.24 million people were placed at acute food insecurity through August by the IPC working group.

## II. EXECUTIVE SUMMARY

Between the war start of 2 March 2026 and the satellite cohort close of 29 April 2026, Israeli strikes and ground operations damaged or destroyed an estimated 11,809 buildings across three regions of Lebanon, of which 1,266 are at the severe tier. The damage is not spread evenly. It concentrates on a 100-village belt south of the Litani river, with four villages in the Bent Jbeil district hit at rates between 19% and 40% of their building stock. Schools, mosques, and hospitals took disproportionate damage relative to their share of the building inventory. The 16 April US-brokered ceasefire reduced strike tempo but did not produce a stable post-escalation environment. The Ministry of Public Health recorded 2,491 killed and 7,719 wounded by 25 April. The Integrated Food Security Phase Classification placed 1.24 million people,

roughly a quarter of Lebanon's population, in acute food insecurity through August.

## III. FRAME

This report measures physical damage across Lebanon during the 58-day window from the satellite pre-war image of 5 March 2026 to the cohort-close image of 29 April 2026. The window opens three days after the 2 March escalation and closes 13 days into a fragile US-brokered ceasefire. The ceasefire took effect at 17:00 EST on 16 April 2026, which is 00:00 Beirut local time on 17 April, and was extended for three weeks at the White House on 23 April.

Damage is detected from two independent satellite sources at 10-metre resolution. A radar signal (Sentinel-1) detects structural change like collapsed roofs and broken walls. An optical signal (Sentinel-2, five spectral bands) detects surface change like rubble and burn scars. A claim is reported as **verified** only when both signals agree at the building level **and** the village it sits in has at least one independently-recorded strike during the cohort window. The verification threshold cuts roughly 70% of the raw radar signal as false-positive; the figures cited here are what survives the cut. Anything called "verified mod+" in the body means moderate-or-severe damage that cleared all three filters.

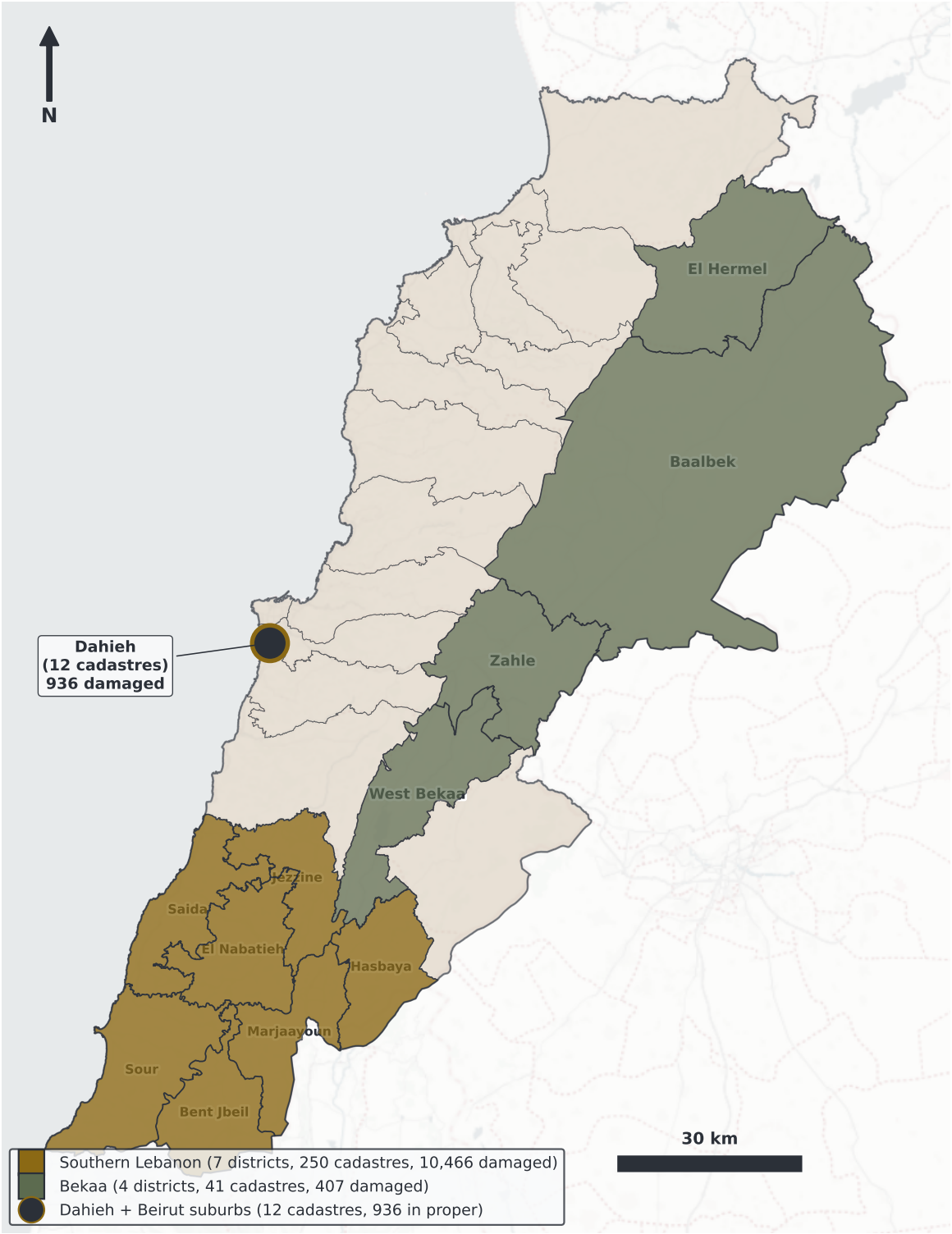
The report covers three analytically distinct regions: **southern Lebanon** (250 villages across 7 administrative districts, the saturation-targeted frontline), **the Bekaa** (41 villages across 4 districts, the dispersed-targeting interior), and **Dahieh and the Beirut suburbs** (12 cadastres in 2 districts, the urban overlay on 2024 rubble). Combined, the three frames cover roughly 910,000 building footprints. A cohort-wide false-positive baseline derived from 22 zero-strike control cadastres establishes that any village carrying triangulated damage above 4.40% of its building stock is decisively above noise; the median undamaged baseline across those controls reads at 0.76%.

The report does not measure displacement, casualties, or food insecurity directly. Where these appear, the source is the Lebanese Ministry of Social Affairs displacement registry, the Ministry of Public Health emergency operations centre, the UNDP Tensions Monitoring System weekly bulletins, the Integrated Food Security Phase Classification working group, and the curated open-source incident record across April. Read against the displacement, casualty, and tension records, the satellite damage census yields the operational picture.

The cohort closes during the ceasefire-extended period. Anything after 29 April is outside scope and would require fresh satellite imagery. The Methodology Appendix at the back of the report carries the technical detail (detection bands, verification threshold, calibration anchors, known traps).

## Map 1 · Cohort coverage

Three regions · 297 cadastres · ~910,000 buildings · 5 March – 29 April 2026




Source: Core Group GIS damage-mapping pipeline v2.11 · cohort 5 March – 29 April 2026

## IV. THE SHAPE OF THE DESTRUCTION

Two facts shape the rest of this report. First, the destruction is geographically narrow. Twenty-five named villages south of the Litani carry roughly 70% of southern Lebanon's verified damage on 8% of its building stock. Twenty-five villages, not whole districts. Second, the damage rate at the regional level is below what the methodology can resolve precisely without a noise-floor caveat. Across the seven southern governorates, **1.85% of buildings show triangulated damage**; the cohort total across all three regions is **1.30%**. These regional rates anchor the headline figure, but they understate the village-level concentration that the rest of this report reads.

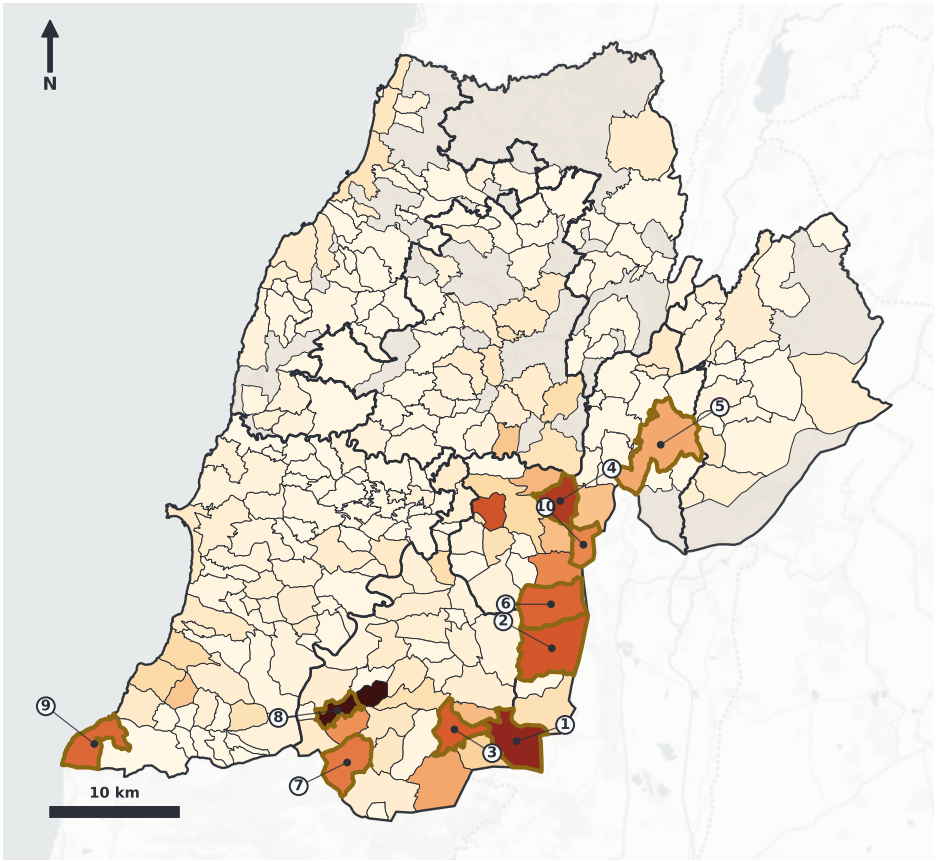
**Table 1. Cohort spine, 5 March – 29 April 2026.**

| Region | Cadastres | Total buildings | Strike claims | Damaged buildings | Severe destruction | Rate |
|---|---|---|---|---|---|---|
| Southern Lebanon (7 districts) | 250 | 565,713 | 2,895 | 10,466 | 1,217 | 1.85% |
| Bekaa (4 districts) | 41 | 249,130 | 121 | 407 | 18 | 0.16% |
| Dahieh proper (6 cadastres) | 6 | 95,511 | 106 | 936 | 31 | 0.98% |
| **Cohort total** | **297** | **910,354** | **3,122** | **11,809** | **1,266** | **1.30%** |

The 11,809 buildings carry triangulated damage signal at the moderate-or-severe tier. Of those, 1,266 cleared the severe threshold, meaning structural collapse, total roof loss, or comparable destruction. The damage census does not include field-survey ground truth; it derives from satellite signals cross-checked against an open-source strike-incident database. The verification cut is conservative; the raw radar signal alone would give a building damage rate three to four times larger across the same area.

## Map 2 · Southern Lebanon · Damage rate by cadastre

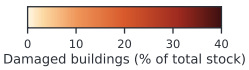
250 cadastres across 7 districts · Saturation cluster (top 10) holds 47% of damage on 4% of stock




### Top-10 hardest-hit

*Southern Lebanon (saturation cluster)*

| # | Cadastre | Damaged | Sev |
|---|---|---|---|
| 1 | Aitaroun | 963 (32%) | 154 |
| 2 | Meiss el Jabal | 819 (21%) | 97 |
| 3 | Bent Jbayl | 802 (20%) | 220 |
| 4 | Taybet | 737 (27%) | 76 |
| 5 | Khiyam | 637 (8%) | 33 |
| 6 | Houla | 347 (18%) | 58 |
| 7 | Aita ash Shaab | 331 (15%) | 27 |
| 8 | Beit Lif | 294 (39%) | 82 |
| 9 | Borj En Naqoura | 288 (18%) | 22 |
| 10 | Aadaysseh | 231 (13%) | 11 |

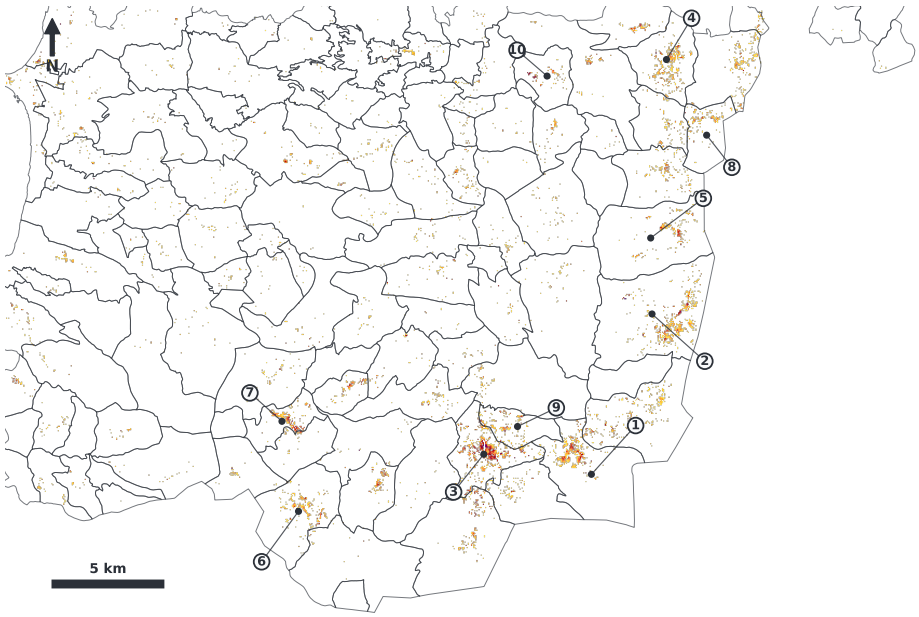



Top-10 saturation cluster

Source: Core Group GIS damage-mapping pipeline v2.11 · cohort 5 March – 29 April 2026

## Map 3 · Damage detail · Saturation cluster (Bent Jbeil + western Marjaayoun)

Per-pixel SAR damage at 10 m resolution · 122 cadastres in view · cohort 5 March – 29 April 2026




### Top-10 hardest-hit

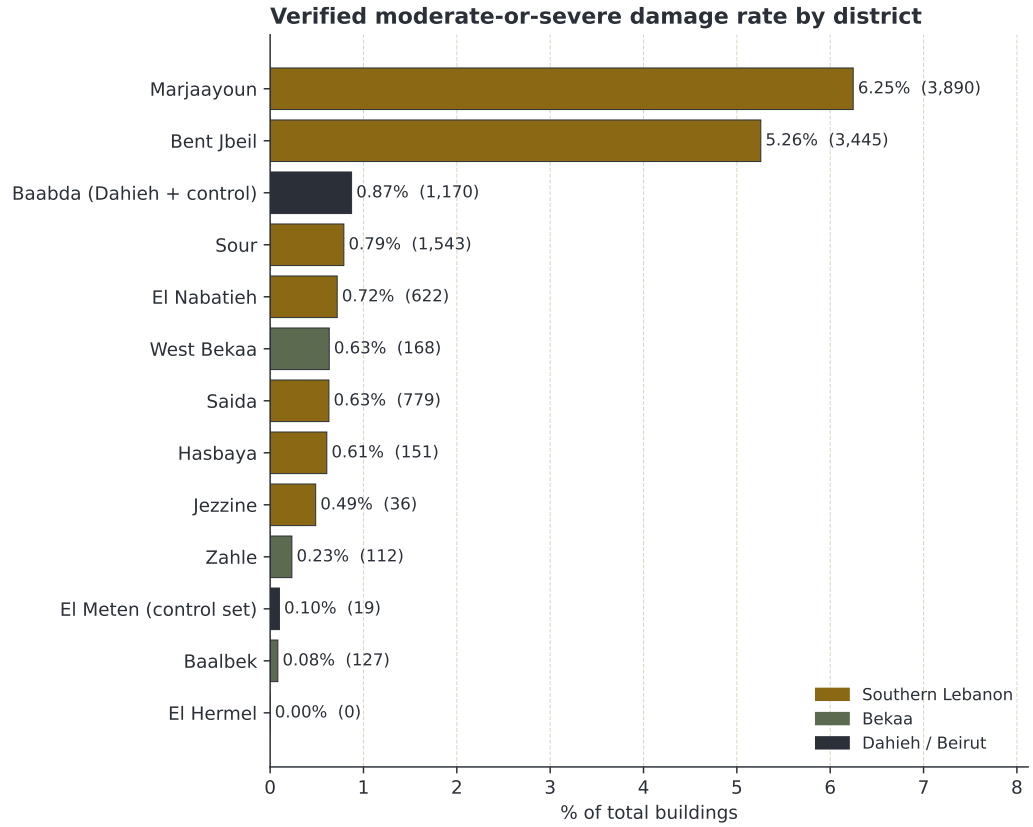
*(by absolute damaged-building count)*

| # | Cadastre | Damaged | Sev |
|---|---|---|---|
| 1 | Aitaroun | 963 (32%) | 154 |
| 2 | Meiss el Jabal | 819 (21%) | 97 |
| 3 | Bent Jbayl | 802 (20%) | 220 |
| 4 | Taybet | 737 (27%) | 76 |
| 5 | Houla | 347 (18%) | 58 |
| 6 | Aita ash Shaab | 331 (15%) | 27 |
| 7 | Beit Lif | 294 (39%) | 82 |
| 8 | Aadaysseh | 231 (13%) | 11 |
| 9 | Aaynata | 229 (7%) | 25 |
| 10 | Qantara | 199 (22%) | 66 |

none low mod severe

Per-pixel damage class (SAR · 2026-only)

Source: Core Group GIS damage-mapping pipeline v2.11 · cohort 5 March – 29 April 2026




Source: Core Group GIS cohort v2.11, 5 March – 29 April 2026. SF-LBN-DMG-2026-05

**The frontline saturation cluster.** Within southern Lebanon, ten villages carry the bulk of the absolute damage count. These ten villages alone hold **4,900 damaged buildings, 47% of southern Lebanon's verified count** on roughly 4% of its stock:

| # | Village | District | Damaged | Severe | Rate (% of total) |
|---|---|---|---|---|---|
| 1 | Aitaroun | Bent Jbeil | 963 | 154 | 32.5% |
| 2 | Meiss el-Jabal | Marjaayoun | 819 | 97 | 20.8% |
| 3 | Bent Jbayl town | Bent Jbeil | 802 | 220 | 19.6% |
| 4 | Taybet Matjaayoun | Marjaayoun | 737 | 76 | 27.4% |
| 5 | Khiyam | Marjaayoun | 637 | 33 | 8.3% |
| 6 | Houla | Marjaayoun | 347 | 58 | 18.4% |
| 7 | Aita ash-Shaab | Bent Jbeil | 331 | 27 | 15.0% |
| 8 | Beit Lif | Bent Jbeil | 294 | 82 | 39.1% |
| 9 | Borj en-Naqoura | Sour | 288 | 22 | 17.8% |
| 10 | Aadaysseh | Marjaayoun | 231 | 11 | 12.8% |

The list contains six villages from Bent Jbeil and Marjaayoun districts and one each from Sour and Marjaayoun's salient. Bent Jbeil district alone carries **609 verified-severe buildings, 50% of the southern severe count, on 11.6% of southern building stock**. The cohort identifies a thin frontline arc, not a wide regional saturation. Sections IV through VI walk through that arc village by village.

## V. THE FRONTLINE ARC, VILLAGE BY VILLAGE

### A. Bent Jbeil district: the saturation cluster

Bent Jbeil district sits on the immediate Israeli border. It is the cohort's most-targeted district by every measure: 3,445 verified buildings damaged across 38 cadastres, 609 of them at the severe tier, on a 65,537-building stock. The district holds the cohort's three most-extreme single-village damage rates and the largest single-village absolute count.

**Beit Lif** is the cohort's single hardest-hit cadastre. The village carries 294 verified buildings damaged out of 752, **39% of the village's building stock, 82 of those at the severe tier**. The village sits directly on the border, with 27 strikes recorded during the cohort window. The verified rate sits 60 percentage points above the cohort noise floor, which is the upper bound of what the methodology can resolve at the cadastre level.

**Aitaroun**, just inland from Beit Lif, carries the cohort's largest single-village absolute damage count: **963 buildings damaged out of 2,965, 154 at the severe tier**. Despite 13 recorded strikes (a low strike count for the damage observed), the verified rate of 33% sits 32 percentage points above noise, indicating sustained-presence operations and demolition-grade activity rather than punitive strike volume.

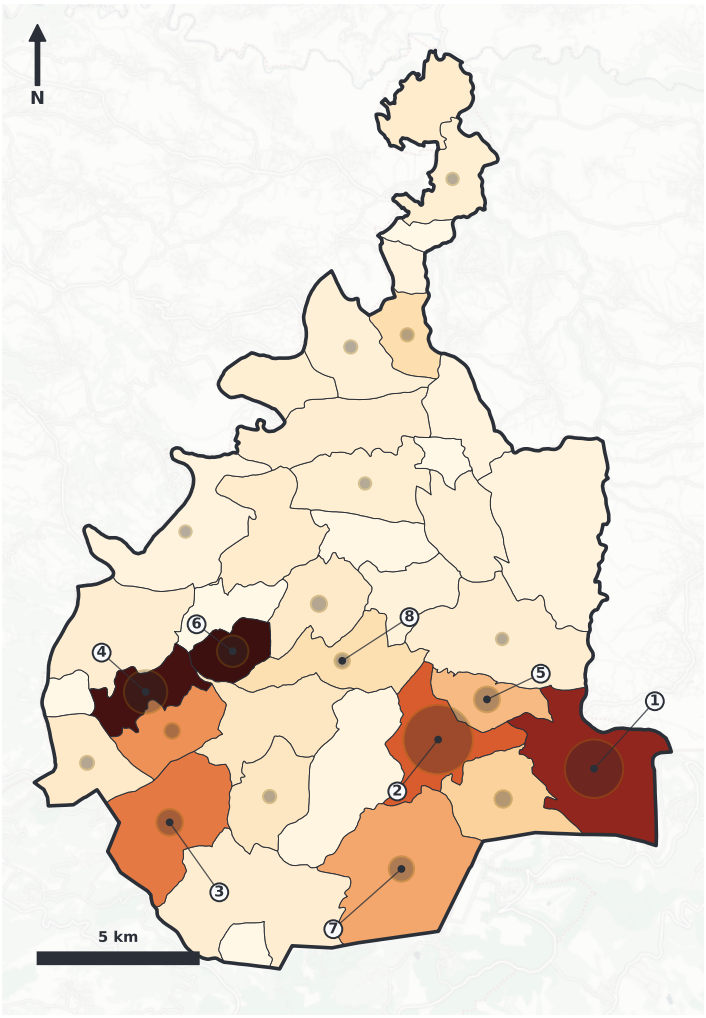
**Bent Jbayl town**, the district seat, carries 802 damaged buildings out of 4,091, with **220 verified-severe**, the second-largest severe count in the cohort after Aitaroun. The town hosts two named verified-severe mosques (the **Mosquée Chiite** and **Al-Jami' al-Kabir / The Grand Mosque**) plus the **Salah Ghandour Hospital** at verified-severe, the only named verified-severe hospital in the southern sample. The town also carries one named heritage entry at verified-severe (an unnamed ruins site).

**Rachaf** is small (350 buildings) but registers the cohort's highest verified rate: 149 buildings damaged, **43% of stock, 40 at severe**. The village sits adjacent to Beit Lif on the western frontline.

**Aita ash-Shaab**, **Aaynata**, and **Yaroun** complete the eastern flank of the saturation cluster. Aita ash-Shaab took 331 buildings damaged at 15% of stock; Aaynata took 229 at 7% but a building stock of 3,491 means the absolute count is substantial; Yaroun took 121 at 9%. Aita ash-Shaab is one of the cohort's four documented demolition-zone villages where ground-level structural elimination (rather than air-strike damage alone) was recorded, alongside Qantara, Meiss el-Jabal, and Kfar Kila.

**Tibnine**, north of the immediate frontline, sits outside the saturation cluster at the building level (5% verified rate) but absorbs the cohort's most concentrated medical strike sequence in mid-April. The Tibnine Governmental Hospital, the last large-volume hospital still operational south of the Litani by week 7, was struck three times in a single week (15-16 April), with the pre-dawn strike on 15 April killing five and damaging the facility, followed by a third strike in a week on the building adjacent to the main entrance on 16 April.

**Map 4 · Bent Jbeil district · The saturation cluster**
609 verified-severe buildings (50% of southern severe count) on 11.6% of southern stock




**Top-8 hardest-hit villages**
*Bent Jbeil district*

| # | Cadastre | Damaged | Sev |
|---|---|---|---|
| 1 | Aitaroun | 963 (32%) | 154 |
| 2 | Bent Jbayl | 802 (20%) | 220 |
| 3 | Aita ash Shaab | 331 (15%) | 27 |
| 4 | Beit Lif | 294 (39%) | 82 |
| 5 | Aaynata | 229 (7%) | 25 |
| 6 | Rachaf | 149 (43%) | 40 |
| 7 | Yaroun | 121 (9%) | 24 |
| 8 | Tiri | 47 (3%) | 5 |

0 10 20 30 40
Damaged buildings (% of total)

Severe destruction count (symbol size proportional)

Source: Core Group GIS damage-mapping pipeline v2.11 · cohort 5 March – 29 April 2026

## B. Marjaayoun district: the buffer-zone corridor

Marjaayoun district carries the cohort's largest absolute verified count: **3,890 verified buildings damaged across 32 cadastres, 452 at the severe tier**, on a 62,276-building stock. Where Bent Jbeil district concentrates the saturation onto a small western cluster, Marjaayoun spreads the damage along a continuous corridor running east-west across the district. The corridor is what the IDF formalised as the Yellow Line in week 7.

**Meiss el-Jabal** carries 819 buildings damaged at 21% of stock, **97 at the severe tier**. The village sits at the centre of the corridor and was the seat of the central-sector hospital seized on 27 March, eliminating medical capacity south of the Litani at that point in the cohort. The verified-severe damage sample includes one unnamed mosque and a water basin in the village.

**Taybet Matjaayoun** carries 737 buildings damaged at 27% of stock, 76 at severe. The village

holds the **Nabatieh Wastewater Treatment Plant** at verified-severe, the largest verified-severe water-infrastructure entry in the southern frame.

**Khiyam**, a larger village (7,634 buildings), carries 637 buildings damaged at 8% of stock with 53 strikes recorded. The percentage rate is moderate, but the absolute count puts Khiyam fifth on the cohort-wide list. One unnamed mosque registers verified-severe in Khiyam.

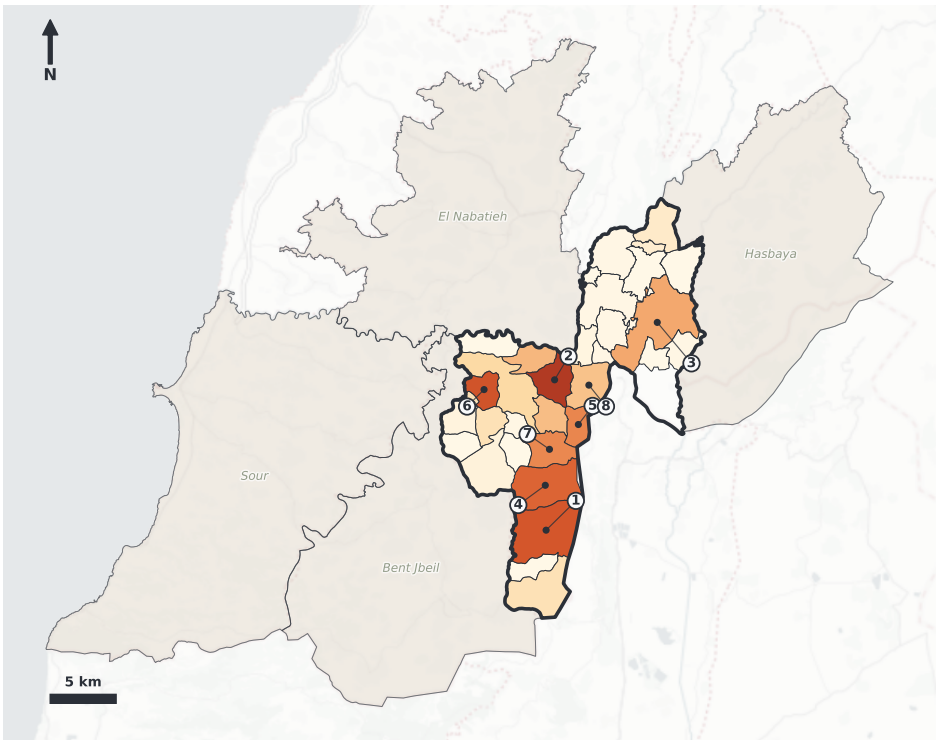
**Houla** at 347 buildings damaged (18%), **Markaba** at 194 (13%), and **Aadaysseh** at 231 (13%) anchor the central corridor. The eight strikes recorded at Houla and the seven at Aadaysseh are unusually low given the verified rates, indicating either ground-level demolition or sustained operations rather than air-strike volume.

**Qantara** sits at the southern end of the corridor. The village is one of the cohort's four demolition-zone cadastres, with the village destroyed alongside its bridge on 26 March 2026. The verified count of 199 buildings at 22% of stock, 66 at severe, captures the satellite signal of the demolition. The **Imam al-Rida Mosque (مسجد الإمام الرضا)** in Qantara registers at verified-severe, alongside one additional unnamed mosque.

**Kfar Kila**, at the eastern end of the salient, carries 133 buildings damaged at 6%. Kfar Kila is the fourth documented demolition-zone cadastre, with a pre-cohort baseline of 1,300+ structures destroyed during the September 2024 – January 2025 window. The 2026 cohort signal compounds this baseline rather than measuring it freshly.

**Deir Siriane** (93 verified, 7%) and **Rabb et-Tlatine** (131 verified, 6%) close out the corridor's western and northern edges.

**Map 5 · Marjaayoun salient · Buffer-zone corridor**
3,890 damaged across 32 cadastres · Litani bridge campaign shown in Map 8




**Top-8 corridor villages**
*Marjaayoun district*

| # | Cadastre | Damaged | Sev |
|---|---|---|---|
| 1 | Meiss el Jabal | 819 (21%) | 97 |
| 2 | Taybet | 737 (27%) | 76 |
| 3 | Khiyam | 637 (8%) | 33 |
| 4 | Houla | 347 (18%) | 58 |
| 5 | Aadaysseh | 231 (13%) | 11 |
| 6 | Qantara | 199 (22%) | 66 |
| 7 | Markaba | 194 (13%) | 32 |
| 8 | Kfar Kila | 133 (6%) | 9 |

Source: Core Group GIS damage-mapping pipeline v2.11 · cohort 5 March – 29 April 2026

## C. Sour: the coastal corridor

Sour district carries the largest absolute building stock (195,380) but the lowest verified rate among the core southern districts (0.79%). Damage concentrates on a narrow coastal corridor at the immediate border. **Borj en-Naqoura** at 288 verified buildings (18%), **Chamaa** at 56 (5%), and **Iskandarouna** at 45 (3%) hold most of Sour's verified count. The interior of the district is light by every measure.

**Sour town** itself reads 132 verified buildings on a 8,104-building stock (1.6%), moderate by Sour's standards but diluted by the large denominator. The 16 April pre-ceasefire residential strike that killed 11 and wounded 30+ minutes before ceasefire entry occurred inside Sour governorate. The **Al-Khadra Mosque** (مسجد الخضراء "Green Mosque") in Sour registers at verified-severe. A second named verified-severe mosque (one of two in Sour town) is unnamed in the canonical store.

The coastal corridor runs along the immediate border for roughly 8 km before damage drops

sharply north of Naqoura. The pattern is consistent with frontline operations confined to the coastal strip rather than the deeper district interior.

### D. Saida adjacent: lighter damage, named civic targets

Saida district is north of Sour and was not a primary frontline target. The verified count is 779 buildings across 40 cadastres, 53 at the severe tier. The damage pattern is unusual for its named-facility concentration: Saida's verified-severe count includes **the Saida Technical Institute (الفني صيدا معهد)**, **the Rafic Hariri Secondary School (الثانوية الحريري رفيق مدرسة)** at two campus instances, **the Saida Palace of Justice / Courthouse (العدل قصر)** which is the only verified-severe government building in the cohort, the **Martyrs' Mosque (الشهداء مسجد)**, and **Kilani Station** (a major fuel depot in Saida el-Oustani). Most of these named entries cluster in two cadastres: Saida ed-Dekermane and Saida el-Oustani.

The 8 April reissued displacement order for Greater Beirut included parts of Saida district hosting collective shelters, contributing to the saturation pressure on the Saida-bound corridor that absorbed bridge-isolated traffic from south of the Litani.

### E. Nabatieh and the parcel-level cut

El Nabatieh district carries 622 verified buildings across 34 cadastres, 18 at the severe tier. The damage rate (0.72% of stock) reads moderate, but the district carries an analytical layer the rest of the cohort does not have: parcel-level land-use typology from the AUB Beirut Urban Lab's NBED database, covering 19 Nabatieh-area cadastres at building-and-parcel resolution.

The parcel-level cut on the Nabatieh region rolls up as follows. **Commercial parcels read 16.7% damaged** on optical detection. **Luxury private homes read 9.8%**. **Residential parcels read 3.0%**. **Single-family homes, offices, institutions, and sports facilities read 0%**. The differential targeting by parcel use is not visible elsewhere in the cohort, where building-only data does not separate land-use classes. Where the parcel data is available, the destruction reads concentrated on commercial and high-value-residential typology, not on standard residential.

The Mayfadoun (Nabatiyeh) "quadruple-tap" paramedic strike on 15 April 2026 is recorded inside El Nabatieh district. Four paramedics killed and six wounded across three response teams: the Islamic Health Committee twice, then the Nabatiyeh Emergency Services with the Islamic Risala Scout Association. The 10 April Nabatieh Serail strike (13 State Security personnel and a Lebanese University academic killed) is the same district's other named-facility incident.

### F. Hasbaya and Jezzine: the lighter end

Hasbaya district carries 151 verified buildings across 18 cadastres, 10 at the severe tier. Three Hasbaya-pocket cadastres lack satellite raster coverage (Aamra, Chouaya, Khalouet) and therefore read as data-gap rather than no-damage findings. Jezzine carries 36 verified buildings across 13 cadastres, none at the severe tier. The two districts together account for 1.8% of

southern Lebanon's verified damage on 5.7% of southern stock.

## VI. THE BEKAA: DISPERSED TARGETING

The Bekaa took roughly one-tenth the damage rate of southern Lebanon. **407 verified buildings damaged, 18 at the severe tier**, across 41 cadastres in four governorates: Baalbek, El Hermel, Zahle, West Bekaa. Every cadastre in the Bekaa frame received at least one strike during the cohort, so no within-region zero-strike control set exists; the cohort-wide noise floor (4.40% p95) anchors the verification.

**West Bekaa** is the hardest-hit Bekaa governorate. **Qaraaoun** at 59 buildings (2.0%), **Sohmor** at 39 buildings (1.9%) on 17 strikes, **Yohmor** at 9 buildings (0.9%), and **Machghara** at 13 buildings (0.4%) hold the corridor signal. West Bekaa's 0.63% rate is four times Baalbek's 0.08% rate despite holding less than a fifth of Baalbek's building stock.

**Baalbek** carries 127 verified buildings dispersed across 23 cadastres, none at a per-cadastre rate exceeding 1.0%. **Haouch er-Rafqa** at 24 buildings, **Nabi Chit** at 22, and **Serraine et-Tahta** at 22 hold the largest absolute counts. The pattern is consistent with dispersed targeting of point assets across the broader Baalbek plain rather than concentrated saturation.

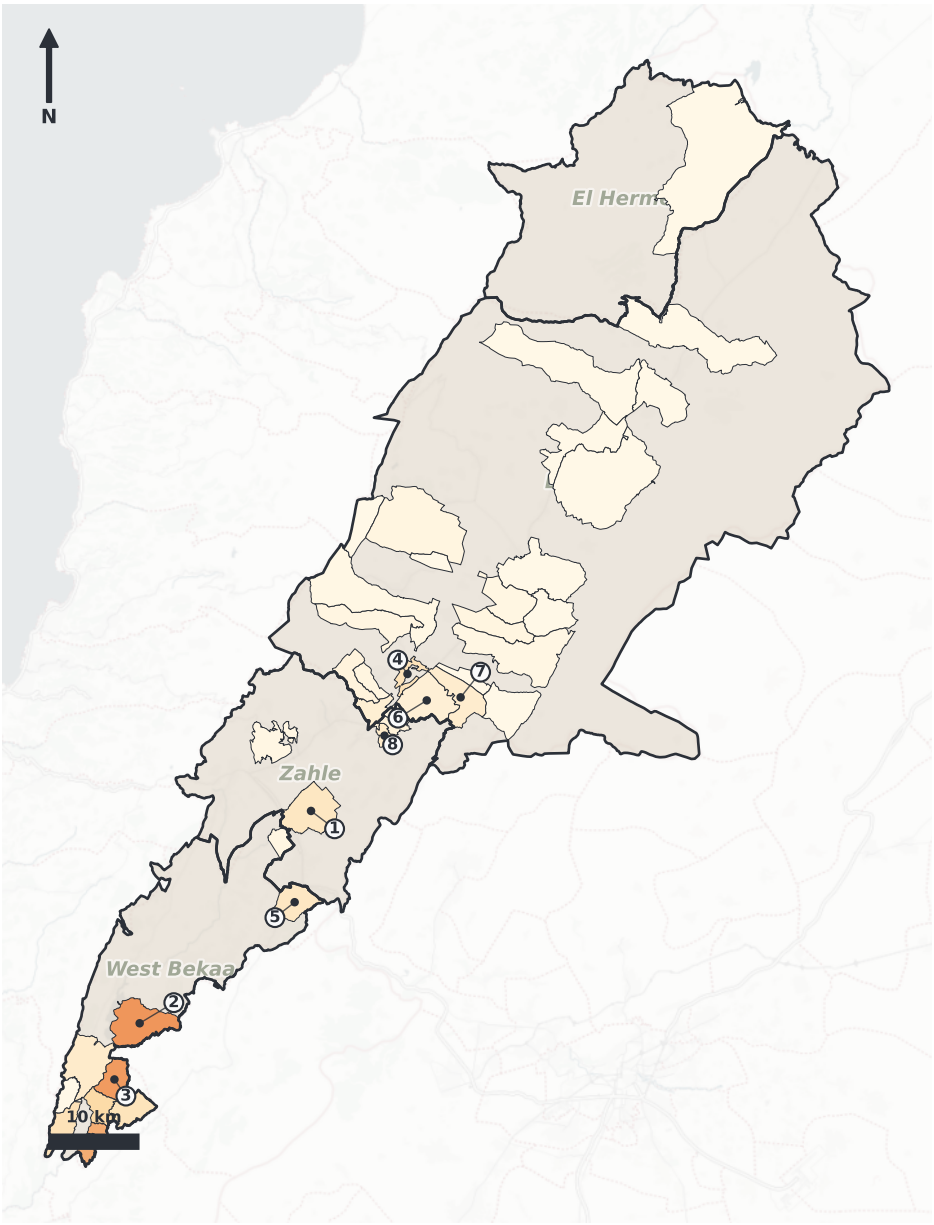
**Zahle** carries 112 verified buildings, 73 of those on **Barr Elias** alone. Barr Elias holds 17,580 buildings, the largest single cadastre in the Bekaa frame, and recorded a single strike during the cohort window. The absolute count of 73 verified buildings on one strike is unusual; the methodology flags this as either a high-yield strike or an admin-3 grounding artefact warranting field verification.

**El Hermel** is the cohort's only zero-verified Bekaa cadastre. The single Hermel-district AOI in the cohort holds 21,048 buildings on five strikes; the polygon size relative to strike density understates per-built-up-pixel rates. The Hermel reading is a coverage-edge artefact, not a finding of no damage.

The verified-severe critical-facility entries in the Bekaa total two: **one unnamed transmission tower in Barr Elias (Zahle)** and **one unnamed wastewater facility in Temnine et-Tahta (Baalbek)**. The contrast with the south's 38 verified-severe named entries is structural rather than a coverage artefact: the Bekaa damage concentrates at the moderate tier, not the severe tier.

## Map 7 · Bekaa · Dispersed targeting

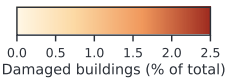
41 cadastres across 4 districts · 407 damaged buildings · 0.16% rate, one-tenth of southern core




**Top-8 hardest-hit**

*Bekaa cadastres*

| # | Cadastre | Damaged | Sev |
|---|---|---|---|
| 1 | Barr Elias | 73 (0.42%) | 1 |
| 2 | Qaraaoun | 59 (1.63%) | 3 |
| 3 | Sohmor | 39 (1.58%) | 0 |
| 4 | Haouch | 24 (0.50%) | 3 |
| 5 | Souairi | 22 (0.40%) | 4 |
| 6 | Serraaine | 22 (0.21%) | 2 |
| 7 | Nabi Chit | 22 (0.29%) | 0 |
| 8 | Riyaq | 18 (0.33%) | 0 |




Source: Core Group GIS damage-mapping pipeline v2.11 · cohort 5 March – 29 April 2026

The Bekaa pattern reads as **transit-and-supply interdiction** rather than saturation bombardment. Sohmor's 17 strikes on a 2,475-building cadastre with a 1.9% verified rate, alongside Qaraaoun's 59 verified buildings on a single recorded strike, indicate either short-duration strike profiles insufficient for satellite coherence loss or targeting of point assets within larger

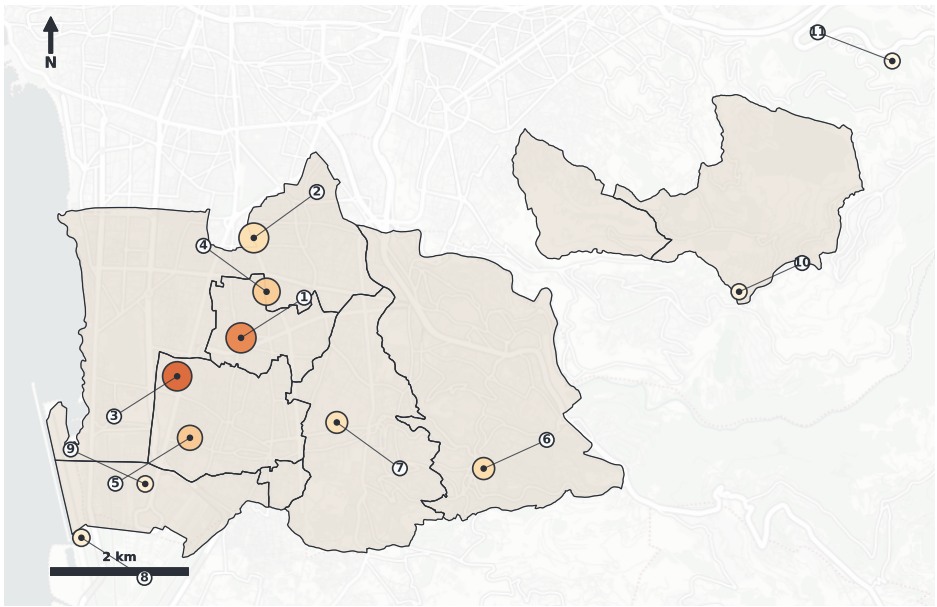
building footprints. The week 6 (4-10 April) UNDP TMS designation of Sohmor and Lebbaya as new displacement-order targets, alongside expansion into West Bekaa generally, corroborates the targeting-profile read at the operational level.

## VII. DAHIEH: THE 2026 OVERLAY ON 2024 RUBBLE

Dahieh proper, the six Hezbollah-majority cadastres of Beirut's southern suburbs (Bourj el-Brajneh, Haret Hreik, Chiyah, Ghobeiry, Bir el Abed, Laylakeh), absorbed **936 verified buildings damaged during the March 2026 window, 31 at the severe tier**, on a 95,511-building stock. The aggregate verified rate is 0.98%, half the southern adjacent rate. Two cadastres carry the bulk of the signal: **Bir el Abed at 2.0%** (203 buildings, 7 severe) and **Haret Hreik at 1.7%** (218 buildings, 7 severe). Both sit decisively above the cohort noise floor. **Bourj el-Brajneh at 1.5%** (197 buildings, 6 severe) anchors the third sub-area.

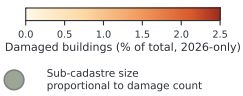
The Dahieh frame is reported separately because the 2024 conflict already produced cumulative damage in these AOIs. Cumulative satellite radar reads at 50-80% across the sub-area; using cumulative figures as a "since March 2026" claim would inflate the damage signal three- to five-fold. The figures cited here use only the 2026-only detection bands, with the pre-war baseline set at late-February 2026, so the 936 buildings represent the marginal addition since the March 2026 escalation began, on top of the rubble already on the ground.

**Map 6 · Dahieh + Beirut suburbs · 2026-only damage overlay**
Bir el Abed (2.0%) + Haret Hreik (1.7%) anchor the cluster · Per-sub-cadastre rates (Bir el Abed / Ghobeiry / Chiyah share parent admin3 21111)




**Dahieh sub-cadastres**
*Sorted by damaged-building count*

| # | Cadastre | Damaged (%) |
|---|---|---|
| 1 | Haret Hreik | 218 (1.68%) |
| 2 | Chiyah | 213 (0.59%) |
| 3 | Bir el Abed | 203 (1.99%) |
| 4 | Ghobeiry | 164 (0.90%) |
| 5 | Bourj El Brajneh | 127 (0.95%) |
| 6 | Baabda | 82 (0.66%) |
| 7 | Hadath Beyrouth | 78 (0.53%) |
| 8 | Tahouitat El Ghadir | 22 (0.26%) |
| 9 | Laylakeh | 11 (0.24%) |
| 10 | Deir mar Roukoz | 7 (0.12%) |
| 11 | Aain Saadeh | 5 (0.07%) |




Sub-cadastre size proportional to damage count

Source: Core Group GIS damage-mapping pipeline v2.11 · cohort 5 March – 29 April 2026

**The 8 April Beirut mass-strike day** ("Black Wednesday") lifted week 6 strike density on the Dahieh AOIs above the cohort weekly mean and contributes a substantial fraction of the late-cohort damage growth visible at the 29 April POST imagery acquisition. The cohort imagery acquires only twice (5 March and 29 April), so the 8 April event integrates into the 56-day signal rather than appearing as a discrete spike.

The verified-severe critical-facility list in the Dahieh + Beirut suburbs frame totals 11. **The Al-Qaim Mosque (جامع القائم)** in Haret Hreik is the only named verified-severe religious site. **Toulouse College** in Hadath Beyrouth, the **"Vocational Education"** المهني التعليم technical school in Chiyah, and the **"Village Capacities"** القرية كفاءات school in Hadath Beyrouth complete the education set. **Sacred Heart Hospital (المقدس القلب مستشفى)** in Baabda is the only named verified-severe hospital in the Beirut metropolitan frame; three named pharmacies (Nisrine in Bourj el-Brajneh, Al-Kuweis in Haret Hreik, Allam in Hadath Beyrouth) and three unnamed health facilities complete the medical set.

## VIII. CIVIC INFRASTRUCTURE: SCHOOLS, MOSQUES, HOSPITALS

The damage pattern across the cohort is not evenly distributed across building types. Schools, mosques, and hospitals took damage at rates several times higher than the building-level damage rate of the same areas. The pattern is consistent across the southern districts at materially different strike-density profiles, indicating the over-representation is structural rather than incidental.

**Across southern Lebanon (a sample of 2,212 facilities):** - **Schools (32.9% damaged at the verified tier)** lead by a clear margin - **Mosques and other religious sites (21.0%)** follow - **Government buildings (17.4%)** and **health facilities (17.4%)** tie next - **Heritage sites (13.8%)** - **Water and sanitation (10.8%)** - **Energy (5.7%)** has the lowest verified rate, on the largest sample of 1,032 facilities (mostly fuel stations and electrical generators dispersed across all seven southern districts)

For comparison, the building-level verified rate across southern Lebanon is **1.85%**. Schools register 18 times higher than the underlying building rate; mosques register 11 times higher; hospitals roughly 9 times higher.

**The Dahieh-area inversion.** In the 12-AOI Dahieh frame (940 facilities sampled), the highest verified rate by category is **water and sanitation at 62.5%** (5 of 8 sampled), reflecting concentrated targeting of utility infrastructure inside the dense urban footprint. **Schools at 16.0%** and **civil safety (police, fire) at 20.0%** follow. The Dahieh inversion of the religious-vs-water rates relative to the south reflects the sub-area's structural difference: dense urban utility infrastructure that cannot be fully replaced by alternative routing, plus 2024-phase cumulative damage already baked into the religious-site sample base.

**Table 2. Verified-severe critical infrastructure by category and region.**

| Category | South | Bekaa | Dahieh + suburbs | Total |
|---|---|---|---|---|
| Religious | 15 | 0 | 1 | 16 |
| Health | 4 | 0 | 7 | 11 |
| Energy | 7 | 1 | 0 | 8 |
| Education | 4 | 0 | 3 | 7 |
| Water and sanitation | 5 | 1 | 0 | 6 |
| Heritage | 2 | 0 | 0 | 2 |

| Category | South | Bekaa | Dahieh + suburbs | Total |
|---|---|---|---|---|
| Government | 1 | 0 | 0 | 1 |
| **Total** | **38** | **2** | **11** | **51** |

**The 21 named verified-severe facilities** are listed in Annex A2 with their Arabic source forms preserved. The list is the most defensible facility-level evidence the report carries: every entry carries triangulated damage signal at the severe tier with at least one independently-recorded strike in its admin-3 cadastre. The named hospital count is two: **Salah Ghandour Hospital** in Bent Jbayl town (south), **Sacred Heart Hospital** in Baabda (Beirut). The named mosque count is six. The named school count is five. The named pharmacy count is three.

**The April-period medical-facility signature.** Three events within the cohort fix the southern medical collapse to specific dates and facilities:

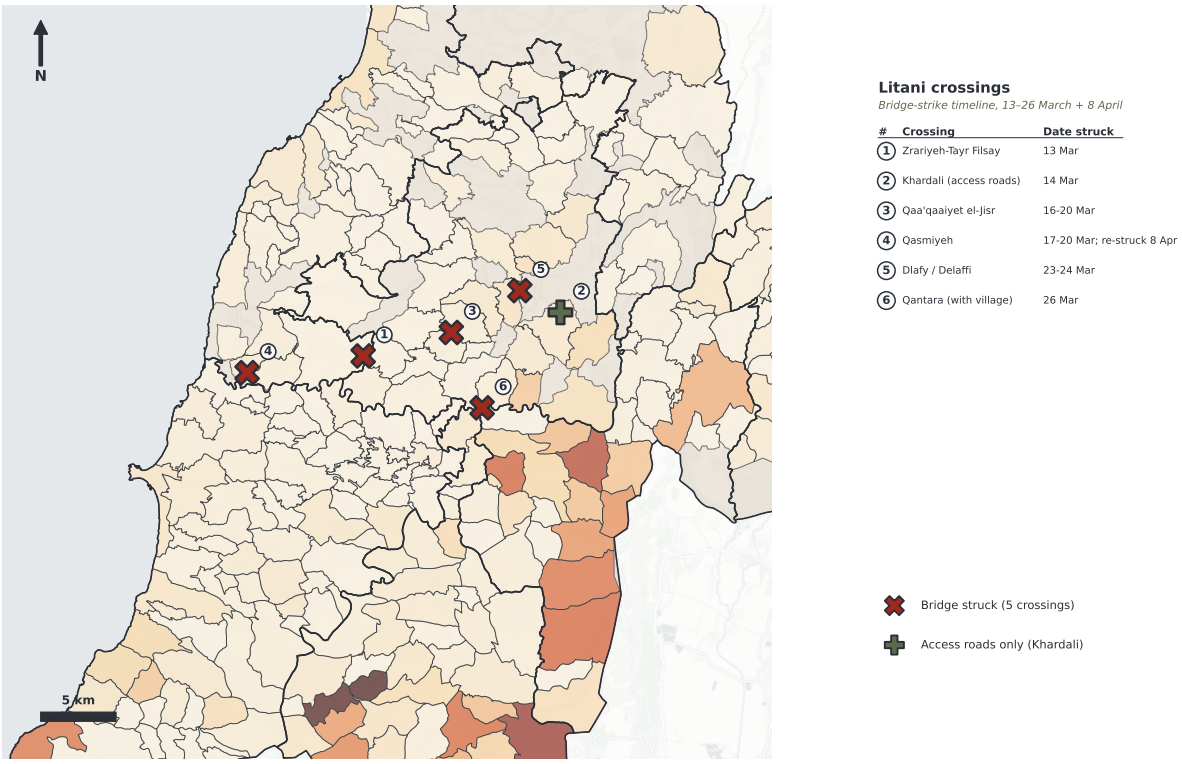
- **27 March 2026: Meiss el-Jabal hospital seized** by IDF, eliminating central-sector medical capacity south of the Litani.
- **15 April 2026: Mayfadoun (Nabatiyeh) "quadruple-tap" paramedic strike**, 4 killed across 3 response teams (Islamic Health Committee twice, then Nabatiyeh Emergency Services + Islamic Risala Scout Association).
- **15-16 April 2026: Tibnine Governmental Hospital "triple-tap"**, three strikes in one week, the third on the building adjacent to the hospital's main entrance, putting the last large-volume hospital south of the Litani out of operation.

The verified-severe Salah Ghandour entry, the seized Meiss el-Jabal hospital, the Tibnine triple-tap, and the Mayfadoun paramedic targeting together constitute the cohort's cumulative signature in the southern medical sector. The Lebanese Health Ministry recorded over 100 medical workers killed across the cohort window.

## IX. THE BRIDGE CAMPAIGN AND THE ISOLATION OF SOUTHERN LEBANON

The Litani river runs east-west across southern Lebanon roughly 30 km north of the Israeli border. Six road crossings span the river along the cohort frame. Between 13 and 26 March 2026, **five of the six crossings were destroyed** by IDF strikes, with the sixth (Khardali) hit on its access roads only. By 8 April, the **Qasmiyeh crossing was re-struck** and rendered fully impassable. The campaign converted the territory south of the river from a combat zone with restricted access into **isolated territory**.

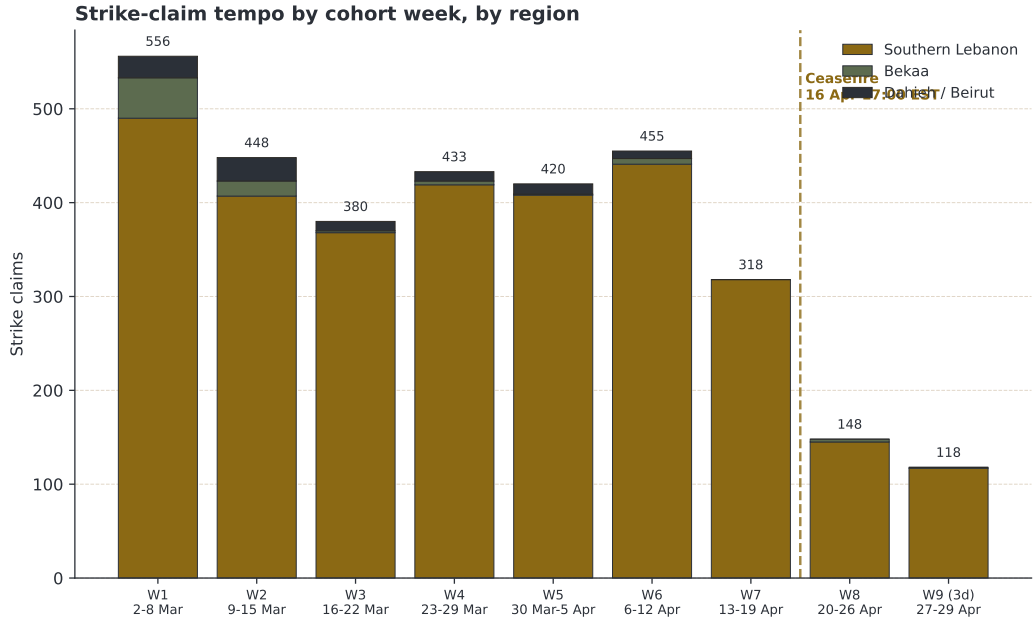
**Map 8 · Litani crossings · Bridge-strike timeline**
Five bridges struck 13-26 March; Khardali access-road severance 14 March; Qasmiyeh re-struck 8 April. ~150,000 isolated south of the river.




Source: Core Group GIS damage-mapping pipeline v2.11 · cohort 5 March – 29 April 2026

By 8 April, every functional Litani crossing in the cohort frame had been severed. **An estimated 150,000 people south of the river lost reliable north-south movement.** Casualty evacuation, food and fuel resupply, and medical referral all funnelled to the Saida-bound coastal corridor through Sidon (which itself sustained 176 strikes during the cohort). The reconstruction estimate for the bridge sequence is 12-24 months minimum at peacetime engineering tempo. **No bridge was reconstructed during the 13-day post-ceasefire window through 29 April.**

The bridge campaign interlocks with the medical collapse. The 27 March seizure of the Meiss el-Jabal hospital eliminated central-sector medical capacity. The 15-16 April Tibnine triple-tap eliminated the last large hospital. The Salah Ghandour Hospital had already been damaged at verified-severe in Bent Jbayl town earlier in the cohort. By cohort close, no functioning hospital remained operational south of the Litani; any medical emergency south of the river required transport across destroyed crossings to Tyre, Sidon, or Beirut, with the bridge isolation interposed against most such routings. For the estimated 150,000 isolated by the bridge campaign, no medical infrastructure was operationally accessible at cohort end.



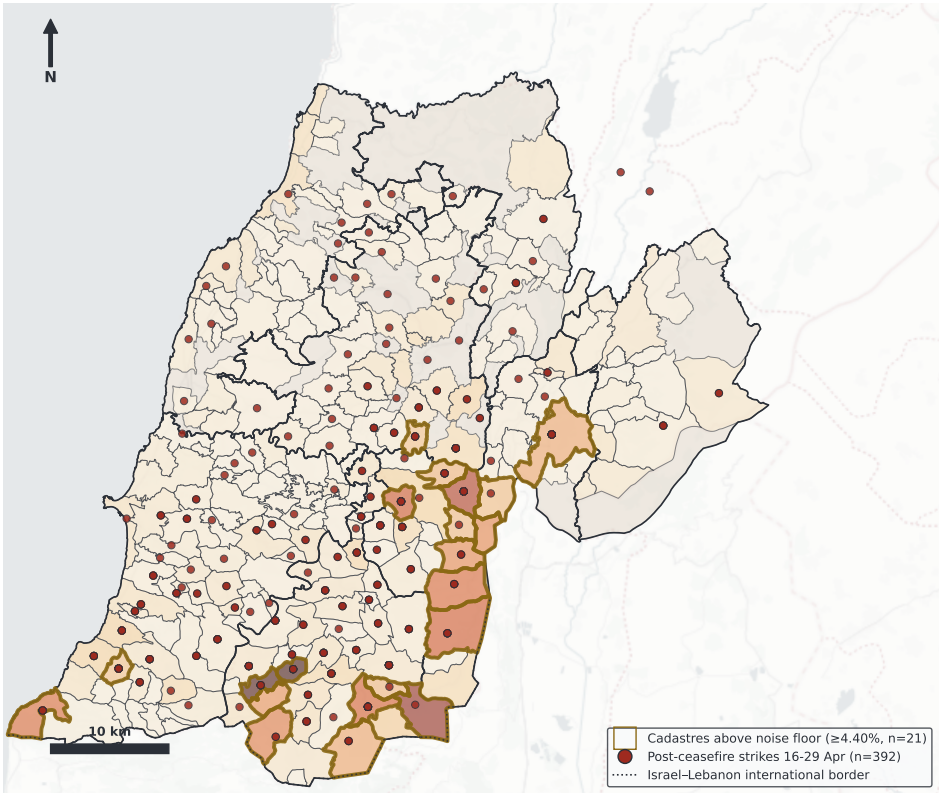

Source: Tier-A geocoded strikes (n=3276 in cohort), 2 March – 29 April 2026. SF-LBN-DMG-2026-05

The strike-density picture across southern Lebanon shows three patterns. **High-strike, low-rate cadastres** (Baalbek city at 58 strikes / 0.08% verified; Sour coastal corridor at 775 strikes / 0.79%) reflect dispersed point-asset targeting. **Low-strike, high-rate cadastres** (Beit Lif at 27 strikes / 39%; Aitaroun at 13 strikes / 33%; Meiss el-Jabal at 12 strikes / 21%) reflect sustained-presence operations and demolition-grade activity. **High-strike, high-rate cadastres** (Bent Jbayl town at 50 strikes / 20%; Khiyam at 53 strikes / 8%) reflect saturation bombardment. The variance is what the verification threshold filters: damage rate is what the methodology measures, strike density is what the public record carries, and the relationship between the two is informative rather than deterministic.

The **post-ceasefire weeks (16-29 April)** dropped to 184 + 213 strike claims combined, a tempo shift coincident with the 16 April ceasefire onset but not a complete cessation. Within those 397 strikes sit the Mayfadoun quadruple-tap, the Tibnine triple-tap, the Tyre pre-ceasefire residential strike, the 18 April Bebnine armed clash, the Qounine vehicle targeting, the Civil Defence first-responder casualties, the LAF personnel casualties, and the 22 April triple-strike sequence in at-Tiri (Tyre) that killed Al Akhbar journalist Amal Khalil and four others.

**The Yellow Line and the 55 no-go villages.** By the 18-24 April TMS Weekly Pulse, the IDF had declared a 5-10 km demarcation line south of the Litani running from the Naqoura coast eastward through central Bent Jbeil and into Hasbaya. The line, labeled the “Yellow Line” in media coverage, encloses 55 border villages designated no-go. The 55-village area maps almost entirely onto the cadastres carrying the highest damage rates in this report’s southern frame: Beit Lif, Aitaroun, Bent Jbayl town, Yaroun, Aita ash-Shaab, Aaynata, Maroun al-Ras, Houla, Markaba, Meiss el-Jabal, Aadaysseh, Taybet Matjaayoun, Qantara, Khiyam, Kfar Kila, plus the Sour coastal corridor (Borj en-Naqoura, Chamaa, Iskandarouna). The targeting cleared the territory the buffer encloses; the buffer codified the cleared territory.

**Map 9 · Damage cluster + post-ceasefire strikes**
Cadastres above the cohort 4.40% noise-floor 95th percentile (gold) cluster along the southern border. Post-ceasefire strikes 16-29 April fall mostly inside the same envelope.



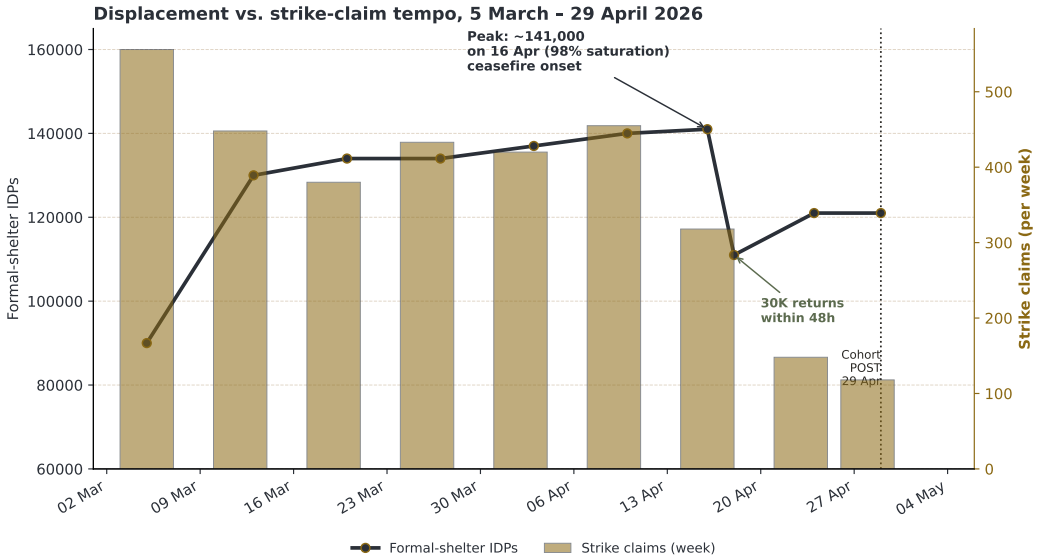

Source: Core Group GIS damage-mapping pipeline v2.11 · cohort 5 March – 29 April 2026

## X. THE HUMAN COST

The verified-damage census and the displacement, casualty, and food-insecurity records describe the same event from complementary angles: where buildings absorbed damage, where their occupants went, and what they survive on now. This section reads the satellite spine against the operational data documented across the cohort.

### A. Displacement

The formal-shelter system rose from 90,000 IDPs in 420 sites on 5 March to a cohort peak of approximately **141,000 in 684 sites on 16 April** (98% saturation). MoSA registered more than 1.0 million self-registered displaced throughout, with roughly 87% of the displacement absorbed by host families and informal accommodation rather than the formal shelter system.




Source: MoSA / UNDP TMS shelter trajectory; Tier-A strike claims. SF-LBN-DMG-2026-05

The 16 April ceasefire opened the largest single shift in the cohort. Within 48 hours, ~30,000 IDPs returned to areas of origin, dropping shelter occupancy to ~111,000 by 18 April. The return wave was geographically uneven: the Bekaa shed 25% of its operational shelters (88 to 66) and Baalbek shed 40% (20 to 12); the South governorate reduced shelter-based displacement by 40%; Mount Lebanon consolidated IDPs into fewer sites without proportionate sheltering reductions; Nabatieh showed little to no decrease, consistent with the uninhabitable condition of areas of return. Public spaces in Beirut began to empty.

Continued strikes, uninhabitable housing, and the absence of basic services drove ~10,000 returnees back to shelters by 24 April. The cohort closes at **121,000 in 640 collective shelters** (62% near-capacity). The TMS perception-survey data from this final week records **76% of respondents reporting higher prices in their area as a result of displacement and 68% reporting their household worse or much worse off than one year ago**; among displaced respondents, 85% and 87%.

*TABLE 4: Shelter trajectory*

The displacement geography is overwhelmingly Shia, by virtue of the territory targeted. Southern Lebanon, Dahieh, and parts of the Bekaa are predominantly Shia. The IDP population reflects this demographic distribution; it follows directly from the geography of the conflict rather than from sectarian targeting.

## B. Casualties

The Lebanese Ministry of Public Health records cumulative casualty figures since the 2 March war start. The trajectory across the cohort:

- **3 April: 1,368** killed
- **4 April: 1,422** (125 children, 91 women)

- **8 April Black Wednesday: 357 killed in the single day**
- **10 April: 1,953** cumulative
- **12 April: 2,020** (with 6,436 wounded)
- **25 April: 2,491 killed and 7,719 wounded since 2 March 2026**

The Ministry does not separate combatants from civilians in cumulative bulletins. The 100-plus medical workers killed across the cohort (per Ministry tallies as of mid-April) sit inside the cumulative total, including the four paramedics in the 15 April Mayfadoun quadruple-tap. The post-ceasefire 13-day window contributed casualty events the TMS records as ceasefire violations: the 18 April Bebnine armed clash, the Qounine vehicle targeting, the LAF personnel killed in southern incidents, the disappearance of a Presidential Guard member in the south, the Civil Defence first-responder deaths, and the 22 April Tiri triple-strike sequence that killed journalist Amal Khalil with four others.

### C. Food insecurity

The Integrated Food Security Phase Classification update of **29 April 2026**, released on the cohort-close date through a joint FAO, WFP, and Lebanese Ministry of Agriculture statement, places **1.24 million people in IPC Phase 3 (Crisis) or worse acute food insecurity** through April-August 2026. That figure is roughly a quarter of Lebanon's population. The geographic concentration tracks the verified-damage map: the southern districts (Bent Jbeil, Marjaayoun, El Nabatieh, Sour) carry the largest increases in Phase 3 populations, with **55-65% of population in Phase 3 or above** and approximately 10% in Phase 4 (Emergency). The Lebanese Ministry of Agriculture records **76% of southern Lebanon's farmers displaced** during the cohort window and **22% of all agricultural land damaged**.

Where bridge isolation, demolition-zone reconstruction horizons, and the 55-village no-go designation prevent return, household food access is constrained by both supply-chain disruption and the loss of agricultural land in the affected southern cadastres. The food-insecurity overlay compounds the displacement pattern: the displaced population cannot return because the land they would farm is destroyed or off-limits.

### D. Tension trajectory

The UNDP TMS dashboard tracks seven drivers (host-community pressure, shelter capacity, state-citizen relations, intra-Lebanese dynamics, inter-communal tensions, information ecosystem, perceptions around aid). The trajectory across the eight cohort weeks runs through three phases:

**Active-escalation phase (weeks 1-6, 5 March – 15 April).** Host-community pressure and shelter capacity reached *critical* by week 4. The week-by-week trajectory progressed from passive resistance (week 1: localised landlord screening of Shia tenants in Christian and Sunni areas) through community-organised rejection (week 2: explicit calls from Klaiaa, Marjayoun, Rme-

ich, Alma Chaab, Aramoun, Meri, Michmich, and Beddaoui to limit IDP hosting) to physical confrontation (week 3: the Khalde clash on 17 March; the Aramoun clash on 19 March; community watch groups in Keserwan recruiting youth) to politicised consolidation (week 4: the Karantina shelter framing as "camp" reviving 1976 massacre memory; the Jounieh confrontation on 24 March; municipal restrictive measures in Ain el-Remmeneh by 27 March). Through early April: Choueifat IDP tents dismantled by security forces; Turkey-donated prefabricated housing rollout halted on sectarian online backlash; President Aoun's repeated warnings against threats to civil peace; the 8 April Ain Saade attack heightening anti-IDP rhetoric; the 9 April Rmeich municipality night curfew on displaced Syrians; Bwarej (Zahle) contaminated-diesel allegations; Rachiin (Zgharta) polluted-water allegations; Mehammara (Akkar) ambulance-burning over perceived aid bias; the 10 April Nabatieh Serail strike.

**Ceasefire-onset phase (week 7, 16-22 April).** Inter-communal tensions eased from emerging to watch as the formal cessation reduced direct confrontation intensity. Host-community and shelter-capacity drivers held critical but stabilised on the post-ceasefire return wave. The week 7 TMS records the 14 April direct diplomatic talks, smaller counter-mobilisations in Saadiyat, Khalde, and Tripoli expressing support for the government's negotiation posture, the Mansouriyeh / Mkalles / Daychounieh evictions and municipal police checkpoints, the Kfawra (Nabatieh) closure of village entrance to non-residents, and the post-ceasefire mistreatment of journalists in Dibbine (Marjaayoun). Public expectations toward the state remained high: 60% of perception-survey respondents indicated stronger official security presence would be most effective for stability.

**Cohort-end phase (week 8, 23-29 April).** The dashboard closes at: **host community critical with stable trend; shelter capacity critical with stable trend** (volatility rather than saturation); **state-citizen relations critical and rising** on continued post-ceasefire strikes, the killing of Civil Defence first responders, LAF personnel casualties, the Tiri journalist killing, and the negotiated three-week ceasefire extension; **intra-Lebanese dynamics critical** with rhetorical contestation around ceasefire enforcement, demarcation, the Yellow Line, and the Qana gas field; **inter-communal tensions watch** despite the 18 April Bebnine armed clash; **information ecosystem critical and rising** on demarcation, no-go area, return restrictions, and direct-talks polarisation; **perceptions around aid emerging and rising** on differentiated access to southern Christian villages (Rmeich, Ain Ebel, Debel) and food-aid delivery debate.

The 25 April Saqiet al-Janzir incident in Beirut anchors the closing-state intra-Lebanese frame. A State Security operation in a Sunni-majority neighbourhood acquired sectarian overtones when the operation's pretext (private generator pricing, with the Sunni generator owner refusing to lower prices for displaced Shia families) collided with residents intervening physically against the State Security agents. State Security personnel fired into the air; roads closed in Corniche al-Mazraa and Verdun; the senior officer involved was summoned to military court; references to the 7 May 2008 inter-confessional armed clash circulated online during the immediate aftermath. The incident sits 4 days inside the cohort window. It demonstrates the structural friction the state-citizen and intra-Lebanese drivers register at cohort end: economic stress, displacement pressure, state-security action, and sectarian framing compounding into a

single event the dashboard would record as critical-and-rising across multiple drivers simultaneously.

The TMS perception survey records **82% of inter-sectarian incidents since January 2025 classified as violent**. The pattern, treated as a structural consequence of the targeting geography rather than a normative claim, indicates a de facto sectarian re-sorting of Lebanon's population that will outlast the cohort window. The ceasefire did not reverse the trajectory; it reshaped tensions around contested returns, continued strikes, and the politics of demarcation.

## XI. STRATEGIC ASSESSMENT

Four assessments follow from the verified-damage geography, the operational record, and the cohort-end conditions.

### Assessment 1

HIGH CONFIDENCE

The targeting profile registers anti-civic-anchor weighting alongside counter-force operations. Verified damage rates for schools (33% in the south, 16% in Dahieh) and religious sites (21% south) exceed the building-level damage rates of the cadastres they sit in by factors of nine to eighteen. The pattern is replicated across cadastres with materially different strike-density profiles, indicating the over-representation is structural rather than incidental. The named verified-severe entries (Salah Ghandour Hospital, Saida Palace of Justice, Saida Technical Institute, Imam al-Rida Mosque, Al-Khadra Mosque, Al-Qaim Mosque, Toulouse College, Sacred Heart Hospital, Nabatieh Wastewater Treatment Plant, Kilani Station fuel depot) read as deliberate civic-anchor targeting alongside the building-level pattern. The 15-16 April Tibnine triple-tap and the 15 April Mayfadoun quadruple-tap on paramedics, occurring during the active-escalation tail-end of the cohort, register the same pattern in a denser temporal window: medical infrastructure and emergency-response personnel absorb strike sequences engineered to defeat their replacement and rescue-attempt logic.

### Assessment 2

MEDIUM-HIGH CONFIDENCE

The damage footprint aligns with the asserted Litani buffer-zone geography that the post-ceasefire Yellow Line designation formalised. The verified-damage cluster runs continuously through the Bent Jbeil and Marjaayoun frontline cadastres and traces the boundary of the territory the IDF five-division advance enclosed by the close of week 4. The Sour coastal corridor (Borj en-Naqoura) and the Marjaayoun salient (Qantara, Khiyam, Taybet Matjaayoun, Houla) anchor the western and eastern edges of the buffer-zone shape. The 18-24 April designation of 55 border villages as a no-go area, accompanied by the new IDF demarcation line stretching 5-10 km north of the border, formalised the access constraint across territory the targeting had already cleared. Bridge reconstruction did not begin during the post-ceasefire window; the

medical collapse south of the Litani persisted; the 55-village no-go area held. The buffer-zone codification is therefore not a hypothesised future state but a documented cohort-end condition.

## Assessment 3

HIGH CONFIDENCE

The reconstruction baseline implies durable demographic re-sorting of southern Lebanon. The **1,217 verified-severe buildings in the south**, the **four-cadastre demolition zone (Qantara, Aita ash-Shaab, Meiss el-Jabal, Kfar Kila)**, the **five destroyed Litani bridges plus the Khardali access-road severance** (none reconstructed during the post-ceasefire window), the **verified-severe Salah Ghandour Hospital damage and the seized Meiss el-Jabal hospital**, and the **15-16 April neutralisation of Tibnine Governmental Hospital** combine to produce a southern reconstruction horizon that no current Lebanese state institution is equipped to deliver. The systematic strikes on the AQAH financial network through mid-March removed the financing floor for any private reconstruction across hundreds of thousands of southern Lebanese families. The 1.0 million displaced, particularly the demolition-zone fraction with no return pathway and the 55-village no-go-area cohort designated under the post-16-April ceasefire, will absorb into northern host communities under TMS-tracked friction trajectories the report describes in Section IX. The IPC update of 29 April places **1.24 million persons in IPC Phase 3 or above acute food insecurity** through August 2026; in the southern districts, 55-65% of population sits in Phase 3 or worse, with ~10% in Phase 4 (Emergency). The MoPH-recorded **2,491 killed and 7,719 wounded by 25 April** anchors the human-cost dimension. The combined picture indicates the post-cohort demographic geography of Lebanon will differ materially from the pre-cohort baseline regardless of how the ceasefire arrangement evolves.

## Assessment 4

HIGH CONFIDENCE

The cohort-window freeze bounds the defensibility of any post-29-April claims. The cohort closes 13 days into a fragile US-brokered ceasefire arrangement (16 April onset, 23 April three-week extension). The verified-tier figures cited in this report describe the 5 March – 29 April 2026 window only and capture both the active-escalation phase (42 days) and the ceasefire-extended phase (13 days). The post-ceasefire phase included the Mayfadoun quadruple-tap, the Tibnine triple-tap, the Tyre pre-ceasefire residential strike, the 18 April Bebnine armed clash, the 22 April Tiri triple-strike sequence killing journalist Amal Khalil and four others, and the 25 April Saqiet al-Janzir intra-Lebanese flashpoint, characterised by the TMS as making the ceasefire environment "increasingly difficult to distinguish from active escalation." Any post-29-April escalation, ceasefire collapse, or formal-agreement extension is captured by the TMS, MoPH, and OSINT feeds but not by the satellite cohort. Future damage assessments will require a fresh imagery cycle.

## XII. WHAT TO WATCH (POST-COHORT INDICATORS)

The cohort closes inside an unstable arrangement. The following indicators sit on the boundary between cohort-end conditions and the post-cohort trajectory and are the most operationally relevant signals for the period after 29 April 2026.

- **Bridge reconstruction.** None of the five destroyed Litani crossings nor the Khardali access roads showed reconstruction activity through cohort end. Watch for: international donor commitments specific to Litani-system bridges; Lebanese Ministry of Public Works tendering; ceasefire-clause language permitting or restricting reconstruction.
- **Yellow Line stability.** The 5-10 km Yellow Line and the 55-village no-go designation held through cohort end. Watch for: IDF Lebanese-territory withdrawal tied to ceasefire-extension milestones; LAF deployment into territory previously held by IDF; civilian return patterns in named no-go villages; new bilateral demarcation agreements via the ambassadorial track.
- **Hospital reopening south of the Litani.** No functioning hospital remained operational south of the Litani by 17 April. Watch for: Tibnine Governmental Hospital reactivation status; restoration of the Meiss el-Jabal hospital; ICRC, MSF, or WHO medical-corridor agreements; health-corridor humanitarian access arrangements.
- **MoPH casualty trajectory.** The 25 April 2,491 figure is the closest cohort-end roll-up. Watch for: 30 April and subsequent cumulative bulletins; the divergence between MoPH counts and IDF claims of "killed militants"; cumulative healthcare-worker counts past the 100 threshold.
- **TMS dashboard color shifts.** The cohort closes with state-citizen, intra-Lebanese, and information ecosystem at *critical and rising*. Watch for: state-citizen relations escalating to direct confrontation; intra-Lebanese dynamics absorbing the Saqiet al-Janzir aftermath; perceptions around aid moving from emerging to critical on continued differentiated access to Christian-majority villages south of the Litani; inter-communal tensions reactivating around any Syrian-border incident.
- **IPC re-assessment.** The 29 April update bracket runs through August 2026. Watch for: WFP / FAO / Ministry of Agriculture quarterly bulletins; IPC Phase 4 (Emergency) population growth in southern governorates above the 10% baseline; agricultural-land restoration cycles in the 22%-damaged southern farmland.
- **Ceasefire continuation past mid-May.** The three-week extension from 23 April expires around 14 May 2026. Watch for: third Israeli-Lebanese ambassadorial meeting; further extension or formal collapse; territorial-arrangement language addressing Yellow Line geometry, Qana gas-field implications, and 55-village access; Hezbollah weapon-control language under the state-arms-monopoly framing the cabinet asserted in week 6.

## XIII. METHODOLOGY APPENDIX

Detail in this appendix supports the headline figures cited in the body. The appendix is structured for readers who want to verify or replicate the analysis.

### A. Detection

Damage is detected from two independent satellite-derived signals, both at 10-metre resolution. The optical signal computes a multi-index z-score against five spectral indices (dNBR, dSWIR, dNIR, dNDVI, dVV) from Sentinel-2 imagery. The radar signal computes a T-test on Sentinel-1 VV-polarisation coherence. Both detectors run in two configurations: a cohort version using 12-month pre-war reference distributions, and a 2026-only version using late-February 2026 reference. This report uses the 2026-only versions throughout, to isolate damage attributable to the current escalation rather than 2024-phase carryover.

### B. Verification threshold

The report's figures use the verified tier, defined as: 2026-only radar at moderate or worse AND 2026-only optical at low or worse AND the cadastre carries at least one strike claim during the cohort window. The verified threshold reduces the raw radar detection rate by approximately 70%; the trade is recall-for-precision, calibrated against the empirical noise floor. Approximately 30% of corroborated buildings (those passing the two-satellite agreement test) drop out of the verified tier because their cadastre has zero strike reports; this is recall loss, not precision improvement.

### C. Noise floor

The empirical false-positive baseline derives from 22 cohort-wide zero-strike control AOIs. The corroborated tier (radar ▮ optical without strike-claim filter) reads at **0.76% median and 4.40% 95th percentile** across the controls. Cadastres above 4.40% are decisively above the noise floor. Beit Lif at 39.1% verified is the cohort's devastation anchor and the upper bound of what the methodology can resolve.

### D. Statistical floor for cadastre-level claims

Cadastre-level rate claims in this report apply only to cadastres holding at least 200 buildings (excludes 9 of 250 southern cadastres, all small-fragment AOIs). All cited cadastres are paired with their absolute building counts. Cadastres cited in the body all sit above 5 percentage points of distance above the cohort noise floor, with the saturation cluster (Beit Lif, Aitaroun, Bent Jbayl town, Taybet Matjaayoun, Houla, Aita ash-Shaab, Yaroun) sitting 17-60 percentage points above noise.

## E. Calibration

The methodology is calibrated against the Ballinger 2025 RSE 115025 PWTT precision/recall ladder developed on Gaza. No public Lebanon-specific ground truth set exists at the time of writing (UNOSAT, Amnesty, Beirut Urban Lab, Miyamoto, and DDMG all checked and confirmed as not having released building-level damage labels for Lebanon 2024-26). Visual cross-checks against published Airbus VHR imagery confirm the verified-tier signal at hardest-hit cadastres (Beit Lif, Aitaroun, Bent Jbayl town); the cohort-wide noise-floor anchor (n=22 zero-strike control AOIs, 0.76% median) confirms the false-positive baseline. The Gaza-derived calibration is a known limitation; results are defensible but not externally validated against Lebanon ground truth.

## F. Caveats

- The 2024 Hezbollah-Israel war produced cumulative damage in the Dahieh-proper AOIs and selected southern cadastres. Cumulative-radar readings in those AOIs exceed 50% and are not admissible as 2026 claims. The report uses 2026-only bands throughout to suppress this contamination.
- Three Hasbaya-pocket cadastres (Aamra, Chouaya, Khalouet) lack raster coverage; they are excluded from rate calculations rather than imputed.
- Mhaibib reads 23.99% on 2026-only radar because the radar algorithm sees 2024-09 demolition as a structural change in its 12-month pre-war window. The verified rate is 3.46%; Mhaibib should not be included in March 2026 damage counts as a primary claim.
- Bekaa empirical noise floor cannot be derived within the region because every cohort Bekaa cadastre carries at least one strike claim. The cohort-wide noise floor is borrowed.
- Strike-claim direction is overwhelmingly Israel-to-Lebanon (97.8% of Tier-A claims). The 5 unknowns and 78 direction-unknowns are insufficient to alter regional aggregates.
- The post-cohort escalation period (after 29 April 2026) is not captured by the satellite cohort. The 25 April Saqiet al-Janzir incident sits 4 days inside the cohort window but is incident-specific rather than dashboard-derived (the cohort-end TMS Weekly was published before it).
- Bir el Abed and Ghobeiry are sub-cadastres of Chiyah; they are attributed to Baabda district per the Chiyah pcode lookup. Per-AOI rates are reported separately because the embedded sub-cadastres carry distinct targeting profiles.
- Per-cadastre rates in this report are computed against total building stock, not against the consensus-valid denominator. The consensus-valid denominator (buildings with both radar and optical valid pixel-level data) produces higher per-cadastre rates (Beit Lif at 60.4% on consensus-valid versus 39.1% on total; Bent Jbayl town at 23.5% versus 19.6%); the regional aggregates remain unchanged. The total-buildings framing is the

more conservative reporting choice and matches the regional headline rates (2.22% core south, 1.85% all south, 0.16% Bekaa, 0.98% Dahieh proper, 1.30% cohort).

## XIV. ANNEX

### A. . Top 30 hardest-hit cadastres (by absolute damaged-building count)

Statistical floor: minimum 200 buildings. All cadastres listed are decisively above the cohort noise floor (≥5 percentage points distance above the 4.40% p95).

| # | Cadastre | District | Total bldgs | Strikes | Damaged | Severe | Rate |
|---|---|---|---|---|---|---|---|
| 1 | Aitaroun | Bent Jbeil | 2,965 | 13 | 963 | 154 | 32.5% |
| 2 | Meiss el-Jabal | Marjaayoun | 3,931 | 12 | 819 | 97 | 20.8% |
| 3 | Bent Jbayl town | Bent Jbeil | 4,091 | 50 | 802 | 220 | 19.6% |
| 4 | Taybet Matjaay-oun | Marjaayoun | 2,687 | 43 | 737 | 76 | 27.4% |
| 5 | Khiyam | Marjaayoun | 7,634 | 53 | 637 | 33 | 8.3% |
| 6 | Houla | Marjaayoun | 1,888 | 8 | 347 | 58 | 18.4% |
| 7 | Aita ash-Shaab | Bent Jbeil | 2,200 | 30 | 331 | 27 | 15.0% |
| 8 | Beit Lif | Bent Jbeil | 752 | 27 | 294 | 82 | 39.1% |
| 9 | Borj en-Naqoura | Sour | 1,620 | 39 | 288 | 22 | 17.8% |
| 10 | Aadaysseh | Marjaayoun | 1,801 | 7 | 231 | 11 | 12.8% |
| 11 | Aaynata Bent Jbayl | Bent Jbeil | 3,491 | 19 | 229 | 25 | 6.6% |
| 12 | Haret Hreik | Baabda (Dahieh) | 13,006 | 26 | 218 | 7 | 1.7% |
| 13 | Chiyah | Baabda (Dahieh) | 36,113 | 21 | 213 | 6 | 0.6% |
| 14 | Bir el Abed | Baabda (Dahieh) | 10,187 | 21 | 203 | 7 | 2.0% |
| 15 | Qantara | Marjaayoun | 923 | 33 | 199 | 66 | 21.6% |
| 16 | Bourj el-Brajneh | Baabda (Dahieh) | 13,327 | 9 | 197 | 6 | 1.5% |
| 17 | Markaba | Marjaayoun | 1,545 | 9 | 194 | 32 | 12.6% |
| 18 | Ghobeiry | Baabda (Dahieh) | 18,212 | 21 | 182 | 4 | 1.0% |

| # | Cadastre | District | Total bldgs | Strikes | Damaged | Severe | Rate |
|---|---|---|---|---|---|---|---|
| 19 | Hadath Beyrouth | Baabda | 14,720 | 16 | 171 | 1 | 1.2% |
| 20 | Rachaf | Bent Jbeil | 350 | 18 | 149 | 40 | 42.6% |
| 21 | Kfar Kila | Marjaayoun | 2,330 | 12 | 133 | 9 | 5.7% |
| 22 | Sour town | Sour | 8,104 | 25 | 132 | 6 | 1.6% |
| 23 | Rabb et-Tlatine | Marjaayoun | 2,120 | 8 | 131 | 8 | 6.2% |
| 24 | Baabda | Baabda | 12,387 | 2 | 130 | 7 | 1.0% |
| 25 | Ghaziyeh | Saida | 5,876 | 4 | 126 | 6 | 2.1% |
| 26 | Aadchit el-Qoussair | Marjaayoun | 3,792 | 18 | 123 | 31 | 3.2% |
| 27 | Yaroun | Bent Jbeil | 1,410 | 19 | 121 | 24 | 8.6% |
| 28 | Borj ech-Chemali | Sour | 9,179 | 21 | 98 | 2 | 1.1% |
| 29 | Sarafand | Saida | 7,278 | 9 | 95 | 9 | 1.3% |
| 30 | Deir Siriane | Marjaayoun | 1,371 | 20 | 93 | 17 | 6.8% |

These 30 cadastres carry **8,083 of the 11,809 cohort verified buildings (68%) on 7% of the cohort's total cadastres**.

# CORE GROUP

**ABOUT CORE GROUP**

Core Group is a Beirut-based strategic foresight house. We produce decision-ready analysis and advisory for governments, diplomatic institutions, and strategic investors navigating Middle Eastern complexity. Our work integrates structured analytical products, applied strategic advisory, and analysis-informed mediation; delivered on daily and weekly cycles calibrated to the speed at which the situation changes.

We are based in Beirut. In environments where official data is systematically unreliable and remote analysis inherits every distortion in its source material, physical proximity is not a logistical convenience but an epistemological foundation of our methodology. We verify what others can only estimate.

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