

# **SPECIAL REPORT**

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## **El-Fasher: State of Crisis**

5 June 2024

**Yale** SCHOOL OF PUBLIC HEALTH  
*Humanitarian Research Lab*

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The Faculty Director of the Humanitarian Research Lab (HRL) at the Yale School of Public Health is Dr. Kaveh Khoshnood. The analysis and production of this report was overseen by HRL Executive Director Nathaniel Raymond and Caitlin Howarth. Analysis and report production was conducted by the Humanitarian Research Lab's Conflict Analytics team.

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## I. Executive Summary

El-Fasher is in a state of crisis. The Yale School of Public Health's Humanitarian Research Lab (HRL) finds that civilians are no longer able to safely remain in El-Fasher. The Rapid Support Forces (RSF) are assaulting the means necessary for the sustainment of life in El-Fasher city and surrounding communities. Yale HRL has corroborated reported mass civilian displacement from the city over the past week. Satellite imagery analysis demonstrates that at least as many as 209 individuals have likely been buried in El-Fasher between 1 March – 31 May, although the number of fatalities is certainly higher. Yale HRL also concludes that RSF is systematically destroying civilian dwellings in neighborhoods with significant Zaghawa populations. This represents the first specific evidence of potentially ethnically motivated alleged targeting inside El-Fasher by RSF. RSF has destroyed at least 0.317 square kilometers of structures in a three-day period (31 May – 3 June). Lastly, fourteen communities within 10 – 56 km of El-Fasher between 18 May – 4 June have been subjected to arson attacks by RSF forces. This brings the total area destroyed in El-Fasher city to 1.919 square kilometers since 21 March, and 40 communities near El-Fasher have been burned since 31 March. The window for any meaningful diplomatic or military intervention to prevent the collapse of all remaining necessities for civilians in El-Fasher is closing hour-by-hour and day-by-day.

The key findings of this report are the following:

- 209 recently created mounds consistent with civilian burial sites observed in cemeteries across El-Fasher, consistent with reports of conflict-related civilian fatalities.
- Approximately 16.5% of the 1.919 square kilometers of conflict-related damage in El-Fasher city since 21 March in civilian neighborhoods occurred in just three days between 31 May – 3 June 2024 in southern and southeastern neighborhoods with significant Zaghawa populations.
- Indicators consistent with civilian displacement from El-Fasher are visible along the A-5 road to Tawilah days after reports that nearly 90,000 people in El-Fasher city alone are documented displaced due to conflict in May.
- Eight communities of 40 total ranging from 12 km west – 39 km to km northwest of El-Fasher have apparently been razed due to arson as evidenced by thermal scarring between 26 May – 4 June 2024. This spike in arson activity indicates likely significant RSF presence and control of areas west and northwest of El-Fasher city.
- Munitions impacts on the Grand Market (Souq) indicate targeted damage to key civilian infrastructure.

Sudan Armed Forces (SAF) and aligned armed actors have, other than sporadic air resupply, no meaningful ability to replenish their troops, materiel, and supply of munitions. Meanwhile, in over twenty days of heavy fighting, RSF continues to gain ground with no effective halt to their advance by SAF and its aligned forces yet observed. If the battle for El-Fasher's current trajectory does not change soon, Yale HRL anticipates that RSF will engage in direct ground combat in or at the SAF 6<sup>th</sup>

Infantry Division Base in El-Fasher during June or sooner. If RSF is successful in its current campaign to capture El-Fasher, Yale HRL assesses that the risk of mass atrocity events, including ethnically targeted attacks on civilians occurring at scale, is high.

## II. Key Findings

### Evidence of Increased Civilian Burial between 1 March – 31 May in El-Fasher's Cemeteries

Indicators of significant civilian fatalities during this period are present in cemeteries, casualty data, and open source reports. Yale HRL has identified at least 209 recently created mounds consistent with civilian graves, newly observed between 1 March – 31 May 2024 across five El-Fasher cemeteries. Analysts have observed apparent burial in progress. The disposition, measurements, orientation, and location of these mounds is assessed to be consistent with graves dug at a civilian cemetery. This number exceeds the 145 deaths reported by Médecins Sans Frontières (MSF) from the period 10-28 May 2024.<sup>1</sup>

It is almost certain that the deaths in El-Fasher far exceed those represented by activity observed at the cemeteries in recent weeks. Open source reports from residents and Sudan Red Crescent via *Darfur24* describe corpses present for weeks in public areas proximate to fighting, raising serious public health concerns.<sup>2</sup>

### Destruction of Civilian Dwellings in Zaghawa Communities in El-Fasher

Yale HRL identifies likely targeted arson of neighborhoods in El-Fasher with significant Zaghawa communities. Across El-Fasher, Yale HRL identifies an additional 0.317 square kilometers of conflict-related damage through thermal scarring between 31 May – 3 June 2024 and 0.119 square kilometers of conflict-related thermal damage between 26-31 May 2024. Conflict-related thermal damage from 1 – 3 June 2024 includes individuated burning of structures and absence of ground scorching between burned structures, indicative of a targeted ground-based attack. Simultaneously occurring smoke plumes of the same color, size, and height at civilian dwellings are visible, consistent with multiple structures being ignited contemporaneously. This recent damage occurred in Al-Inqaz, Ashishat, Al-Hijra, Al-Wahda, Timbasi and Kharaba neighborhoods that reportedly include significant Zaghawa communities. A majority of Zaghawa ethnic groups are reportedly located in the southern section of El-Fasher city.<sup>3</sup>

Yale HRL has identified 1.919 square kilometers of conflict-related damage to El-Fasher between 3 June and 21 March 2024. Of the total conflict-related damage in El-Fasher since 21 March, 16.5% occurred between 31 May – 3 June; 22.7% occurred over the course of a single week between 26 May – 3 June. The damage progression is increasingly moving inward (west) from the outer (east) edges of the city.

## **El-Fasher Civilians Fleeing to Tawilah**

Yale HRL corroborates significant civilian displacement from El-Fasher using satellite imagery analysis of vehicles consistent in size and color with open sources reports of civilian displacement on the road between El-Fasher to Tawilah on 3 June 2024.<sup>4</sup>

Tawilah is currently under the control of the Sudan Liberation Movement (SLM-AW), led by Abdel Wahid Al-Nur, one of the only areas not currently under RSF control or in active fighting within 100 km of El-Fasher.<sup>5</sup> Open source reports indicate that SLM-AW is protecting civilians being displaced to Tawilah, and Islamic Relief and other open sources reported that at least 21 truckloads of people fleeing El-Fasher arrived in Tawilah as of 3 June.<sup>6</sup>

The International Organization for Migration (IOM) reported that 89,210 people in El-Fasher city were displaced during May alone while 129,832 people across El-Fasher locality were displaced between 1 April – 31 May 2024. People have been displaced within El-Fasher, as well as to surrounding localities and as far as East and Central Darfur.<sup>7</sup> On 31 May 2024, the East Darfur Sudanese Red Crescent Society began to officially register IDPs coming from El-Fasher to East Darfur.<sup>8</sup> All areas other than Tawilah are assessed to be likely under RSF control.

## **Targeted Munition Impacts on Grand Market (Souq)**

Yale HRL visually confirms open-source reports of damage at the Grand Market (Souq) between 28 - 31 May 2024.<sup>9</sup> The damage identified is consistent with projected munition impacts. This form of bombardment is consistent with past RSF combat actions that have preceded more significant near-term bombardment of a target. The Grand Market is the main market in El-Fasher, and this damage carries significant civilian impact. The Grand Market is located near the center of El-Fasher city, less than 2.5 kilometers from El-Fasher Airport and the SAF 6<sup>th</sup> Infantry Divisional Base. This damage occurred at both a strategic location in the city center as well as a critical market area for civilians to obtain food and other supplies that are especially vital while El-Fasher is believed to be in a state of severe food insecurity close to famine.<sup>10</sup>

## **35% of Razing at Communities around El-Fasher between 18 May – 4 June 2024**

Yale HRL has identified fourteen communities razed by arson as evidenced by thermal scarring 10-56 km west and northwest of El-Fasher between 18 May – 4 June 2024. This brings the total number of communities destroyed by arson to 40<sup>11</sup> outside El-Fasher since 31 March 2024, some which have sustained apparent razing on multiple occasions.<sup>12</sup> Approximately 20% of these communities (8 of 40) were targeted by apparent arson for the first time during this period. A significant amount of the recent attacks since 18 May have been identified along the road northwest of El-Fasher.

Table 1. Conflict-related Thermal Scarring in Communities near El-Fasher, 18 May – 4 June 2024

<b>Community Name</b>	<b>Damage Period</b>	<b>Distance to El-Fasher</b>	<b>Vector</b>
Turkniya	26 May – 4 June 20 May – 26 May 8 March – 24 April	31 km	West
“Community 27”	26 May – 3 June	22 km	Northwest
Jughmar	26 May – 3 June	25 km	West
“Community 28”	26 May – 3 June 28 April – 3 May 27 April – 28 April 8 March – 24 April	33 km	Northwest
Balunga	26 May – 3 June	39 km	Northwest
Shalakhna	26 May – 3 June	39 km	Northwest
Ammar Jadid	26 May – 3 June 20 May – 26 May 18 May – 20 May 15 April – 20 April	28 km	West
Wadi Kafod	18 May – 3 June 15 May – 18 May 25 Feb – 15 May	56 km	Northwest
“Community 25”	18 May – 3 June 25 Feb – 18 May	33 km	West
“Community 26”	18 May – 3 June	46 km	West
Kobbei	18 May – 3 June 15 May – 18 May 25 Feb – 15 May	56 km	Northwest
Umm Dalil	26 May – 31 May	12 km	West
“Community 23”*	20 May – 26 May	10 km	North
Gileidit*	20 May – 26 May	12 km	Northwest

Communities where a name could not be determined are referred to here as “Unidentified Community X.”

\* This damage was first reported in Caitlin N. Howarth, Kaveh Khoshnood, Nathaniel A. Raymond et al. “RSF Burning Agricultural Communities Close to El-Fasher and Razing of Civilian Dwellings inside the City.” 29 May 2024. Humanitarian Research Lab at Yale School of Public Health: New Haven, [https://medicine.yale.edu/lab/khoshnood/publications/hrl-report-may29-2024\\_479921\\_284\\_26865\\_v1.pdf](https://medicine.yale.edu/lab/khoshnood/publications/hrl-report-may29-2024_479921_284_26865_v1.pdf), archived at <https://perma.cc/R5QC-4MPV>.

Thermal scarring is a visual phenomenon that results from fire events, which is visible in multiple forms of remote sensing data. The thermal scarring patterns present in the affected communities in this report are consistent with those resulting from an intentional arson attack, in which individual structures were selected for burning.<sup>13</sup>

### III. Human Security Analysis

This report demonstrates that as of 4 June the situation in El-Fasher and surrounding areas has deteriorated to catastrophic levels. Significant civilian fatalities, massive displacement, the destruction of shelters and markets, and severe food insecurity close to famine in El-Fasher are rendering the city uninhabitable.

At this point, the RSF's alleged widespread and systematic targeting of 40 communities around El-Fasher is consistent with potential mass atrocities including crimes against humanity. Conflict-related damage in El-Fasher is concentrated in the south and southeastern neighborhoods of El-Fasher that have significant Zaghawa communities. There is no military necessity to engage in the intentional destruction of civilian dwellings as the primary target of military activities. These actions are prohibited by international law and given their systematic nature may be found to be a crime against humanity.

Yale HRL's assessment does not find that SAF and aligned forces' defense of El-Fasher is successful. SAF's forces are not projecting outward; attacks on civilian objects are moving farther inward.

The areas around El-Fasher are not safe locations to flee to. Open sources report that the escape route from El-Fasher to Mellit, about 65 km north of El-Fasher city, is controlled by RSF and dangerous.<sup>14</sup> In a 4 June report, *Sudan Tribune* reported that RSF allegedly accused people fleeing El-Fasher to Mellit of being loyal to Joint Forces and SAF and extrajudicially killed nine men in front of their families.<sup>15</sup> Yale HRL is not able to independently confirm these reports at this time.

El-Fasher continues to experience severe food insecurity, with some areas under conditions consistent with famine. Regardless of conflict, civilians are reported to be dying daily due to severe acute malnutrition and other malnutrition-exacerbated disease. The only reported delivery of medical assistance since mid-April has been the airdrop by the Sudan Ministry of Health of 20 tons of medical supplies on 3 June 2024.<sup>16</sup> This is the first report of an airdrop of medical supplies.

El-Fasher's infrastructure necessary for the sustenance of life, including critical protected infrastructure such as hospitals, are reportedly damaged. As of 3 June 2024, it is not clear if any major hospitals are fully operational in El-Fasher. On 28 May 2024, MSF reported that only two major hospitals, including South Hospital, were still operational; however, as of 3 June 2024 *Alrakoba* reported that South Hospital is out of service and hundreds of patients are being evacuated due to indiscriminate artillery fire.<sup>17</sup> This will only further limit civilians' ability to receive critical medical care, especially as the South Hospital was reportedly the only facility capable of treating mass casualties.<sup>18</sup> Yale HRL assesses through open sources that the communication outages continue at least intermittently throughout El-Fasher, which compounds the challenges to communicate accurate data about the situation on the ground.<sup>19</sup>

## Methodology

Yale HRL utilizes data fusion methodologies of open source and public and commercially available remote sensing data. Yale HRL produced this report through the cross-corroboration of open source and remote sensing data, including satellite imagery and thermal sensor data.

Place names were identified using UN P-codes obtained via the United Nations Humanitarian Data Exchange (HDX) and International Organization for Migration (IOM)'s Displacement Tracking Matrix (DTM) Sudan. This baseline source of information was then verified and informed through open source analysis by Yale HRL's analysts with relevant cultural and linguistic skills. In some cases, communities may have names similar to other communities or may be known by multiple names.

Specific coordinates have been provided to support the further identification and disambiguation of specific place names and community locations. Human security concerns were accounted for as part of the decision to release specific coordinates; potential civilian risk was rated minimal because these communities have already been visibly attacked, and in the case of combat activity and coordinates are released, it is assessed that the combatants are aware of this situation.

## Limitations

There are significant limitations to the data fusion methodology. The information environment in Sudan does not have the breadth of data available in other locations, and there is likely a significant reporting bias for those who provide open source reporting.

Furthermore, the tools and techniques face significant challenges to assess activities such as extrajudicial detention, conflict-related sexual violence (CRSV), and assess conflict-related casualties, particularly in data environments with low data.

Additionally, satellite imagery analysis is limited by available imagery over time and space. Limited available nadir angles of satellite imagery can produce challenges to assess structural damage, until multiple angles and ground-level photographic and video materials emerge to help inform the analysis.

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<sup>1</sup> Medecins Sans Frontieres, "Nowhere safe from violent fighting in El Fasher as hospitals are repeatedly hit," May 28, 2024, <https://www.msf.org/sudan-nowhere-safe-violent-fighting-el-fasherhospitals-are-repeatedly-hit>, <https://perma.cc/QY96-TE68>.

<sup>2</sup> *Darfur24*, "Residents caution of health risks of corpses in the streets of El Fasher", May 26, 2024, <https://www.darfur24.com/en/2024/05/26/residents-caution-of-health-risks-of-corpses-in-the-streets-of-el-fasher/>, archived at <https://perma.cc/6YKF-W2WU>

<sup>3</sup> Sudan Transparency and Policy Tracker, "Field Dispatch from El Fasher," November 12, 2024, <https://sudantransparency.org/field-dispatch-from-el-fasher/>, archived at <https://perma.cc/UNC6-2PJC>; African Arguments, "Land and Power: The Case of the Zaghawa", May 28, 2008, <https://africanarguments.org/2008/05/land-and-power-the-case-of-the-zaghawa/>, archived at <https://perma.cc/2WFZ-SL9C>.

<sup>4</sup> دارفور نيوز (Darfur News) on Facebook, "وصول العشرات من الأسر الغارين"، May 26, 2024, <https://www.facebook.com/watch/?v=1076397800750276>, archived at <https://perma.cc/K8S3-DXCH>; Darfur Victims

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- <sup>5</sup> دارفور نيوز (Darfur News) on Facebook, "وصول العشرات من الاسر الفارين", May 26, 2024, <https://www.facebook.com/watch/?v=1076397800750276>, archived at <https://perma.cc/K8S3-DXCH>.
- <sup>6</sup> دارفور نيوز (Darfur News) on Facebook, "وصول العشرات من الاسر الفارين", May 26, 2024, <https://www.facebook.com/watch/?v=1076397800750276>, <https://perma.cc/K8S3-DXCH>; Darfur Victims Support (@dvs2030) on X (formerly known as Twitter), "صور توثق معاناة النازحين الفارين", June 3, 2024, <https://x.com/dvs2030/status/1797725251184549943>, <https://perma.cc/QW2J-TCM9>; Islamic Relief USA, "Sudan: Fighting in Al Fasher is pushing hundreds of thousands of people across Darfur closer to famine," June 3, 2024, <https://irusa.org/sudan-fighting-in-al-fasher-is-pushing-hundreds-of-thousands-of-people-across-darfur-closer-to-famine/>, <https://perma.cc/6ULP-WDVN>.
- <sup>7</sup> International Organization for Migration (IOM), "DTM Sudan Focused Flash Alert North Darfur (Update 002)" June 2, 2024, <https://dtm.iom.int/reports/dtm-sudan-focused-flash-alert-north-darfur-update-002>, <https://perma.cc/KN8S-DTJV>.
- <sup>8</sup> الهلال الاحمر السوداني (@SRCS\_SD) on X (formerly known as Twitter), "East Darfur State begins registration of IDPs people from the city of El Fasher", May 31, 2024 [https://x.com/srcs\\_sd/status/1796733234157396342?s=46&t=BGwGfC4QtBMA5ekt8jpSOg](https://x.com/srcs_sd/status/1796733234157396342?s=46&t=BGwGfC4QtBMA5ekt8jpSOg), archived at <https://perma.cc/DYG8-SQU9>
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- <sup>10</sup> United Nations, "Sudan: 'Noose of war' tightens on civilians in El Fasher, UN official warns", May 30, 2024, <https://news.un.org/en/story/2024/05/1150416>, archived at <https://perma.cc/S2VJ-EKTW>
- <sup>11</sup> The remaining two communities which have sustained thermal damage since 18 May were identified in a past report, alongside additional damage to Ammar Jadid. Caitlin N. Howarth, Kaveh Khoshnood, Nathaniel A. Raymond et al. "RSF Burning Agricultural Communities Close to El-Fasher and Razing of Civilian Dwellings inside the City." 29 May 2024. Humanitarian Research Lab at Yale School of Public Health: New Haven, [https://medicine.yale.edu/lab/khoshnood/publications/hrl-report-may29-2024\\_479921\\_284\\_26865\\_v1.pdf](https://medicine.yale.edu/lab/khoshnood/publications/hrl-report-may29-2024_479921_284_26865_v1.pdf), archived at <https://perma.cc/R5QC-4MPV>.
- <sup>12</sup> The remaining two communities which have sustained thermal damage since 18 May were identified in a past report, alongside additional damage to Ammar Jadid. Caitlin N. Howarth, Kaveh Khoshnood, Nathaniel A. Raymond et al. "RSF Burning Agricultural Communities Close to El-Fasher and Razing of Civilian Dwellings inside the City." 29 May 2024. Humanitarian Research Lab at Yale School of Public Health: New Haven, [https://medicine.yale.edu/lab/khoshnood/publications/hrl-report-may29-2024\\_479921\\_284\\_26865\\_v1.pdf](https://medicine.yale.edu/lab/khoshnood/publications/hrl-report-may29-2024_479921_284_26865_v1.pdf), archived at <https://perma.cc/R5QC-4MPV>.
- <sup>13</sup> Brittany Card, Ziad Al Achkar, Isaac L. Baker, and Nathaniel A. Raymond. 9/2015. Satellite Imagery Interpretation Guide: Intentional Burning of Tukul. <https://hhi.harvard.edu/publications/satellite-imagery-interpretation-guide-intentional-burning>
- <sup>14</sup> HRL\_MMC\_0021
- <sup>15</sup> Sudan Tribune, "معلومات حول ارتكاب الدعم السريع تصفيات جسدية بحق فارين من الفاشر", June 4, 2024, <https://sudantribune.net/article286565/>, <https://perma.cc/E7Q7-PNN7>.
- <sup>16</sup> Al-Taghyeer, "السودان: توصيل أدوية منقذة للحياة عبر الإسقاط الجوي إلى الفاشر", June 3, 2024, <https://www.sudanakhbar.com/1528046>, <https://perma.cc/8PCP-QKU7>; UN News, "Sudan: Deteriorating situation in El Fasher, health system collapsing nationwide," May 24, 2024, <https://news.un.org/en/story/2024/05/1150216>, <https://perma.cc/W42R-HSC2>; "Médecins Sans Frontières (MSF), Urgent delivery of food aid needed in Zamzam camp, Sudan," April 30, 2024, <https://www.doctorswithoutborders.org/latest/urgent-delivery-food-aid-needed-zamzam-camp-sudan>, <https://perma.cc/W98Q-B65D>
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- <sup>18</sup> MSF Sudan (@MSF\_Sudan) "South Hospital is the only Hospital capable," May 28, 2024, [https://x.com/MSF\\_Sudan/status/1795458990488289411](https://x.com/MSF_Sudan/status/1795458990488289411), archived at <https://perma.cc/JXV8-L3TV>
- <sup>19</sup> Caitlin N. Howarth, Kaveh Khoshnood, Nathaniel A. Raymond et al. "RSF Burning Agricultural Communities Close to El-Fasher and Razing of Civilian Dwellings inside the City." 29 May 2024. Humanitarian Research Lab at Yale School of Public Health: New Haven

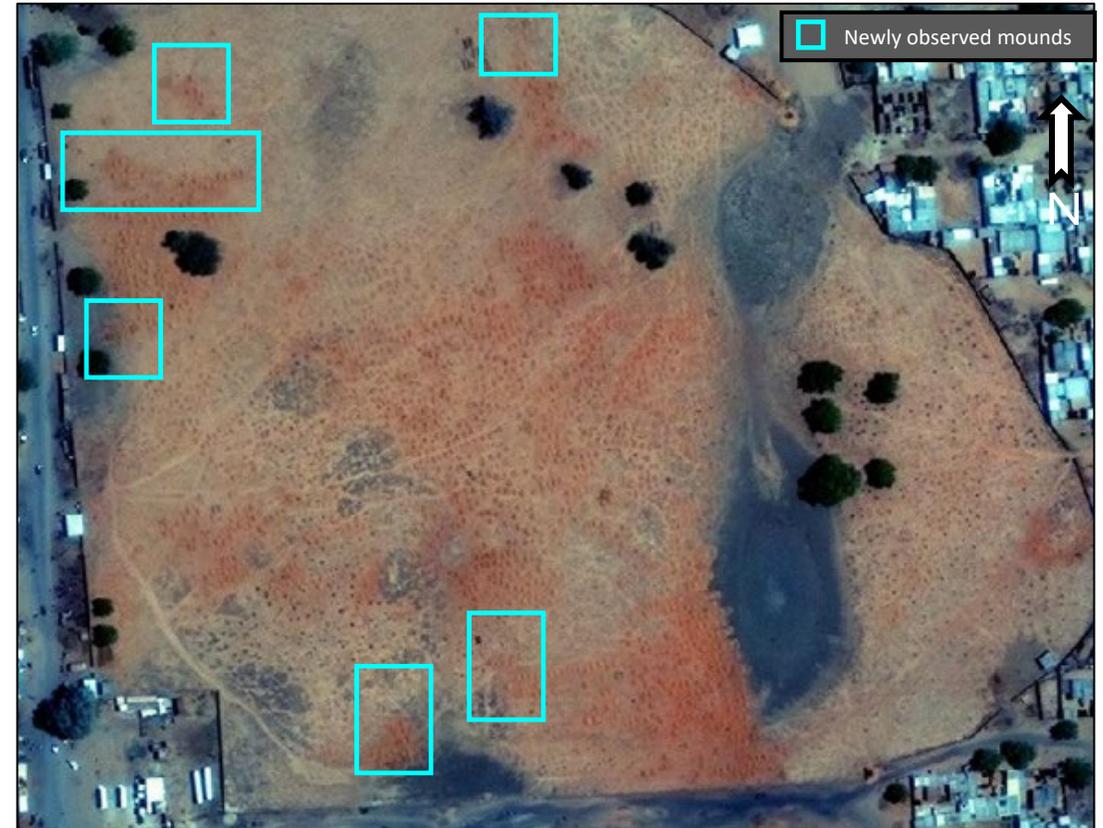
# Al-Timanat Cemetery Expansion

## NEW GROUND DISTURBANCE OBSERVED AT AL-TIMANAT CEMETERY

According to analysis of satellite imagery, newly observed ground disturbance was observed at Al-Timanat cemetery between 01 March and 20 May 2024. Approximately 85 newly observed mounds were identified at the northern and southern area of the cemetery that measured approximately 1.8 meters by 3 meters.



01 March 2024 © 2024 Maxar, USG-Plus



20 May 2024 © 2024 Maxar, USG-Plus

# Al-Timanat Cemetery

## MUNITIONS IMPACTS OBSERVED AT AL-TIMANAT CEMETERY

According to analysis of satellite imagery, five newly observed munitions impact craters were identified on the ground of the Al-Timanat Cemetery in El-Fasher.

Three craters appear between 23 and 25 May, and two additional craters appear between 26 and 27 May.



01 March 2024 © 2024 Maxar, USG-Plus



27 May 2024 © 2024 Maxar, USG-Plus

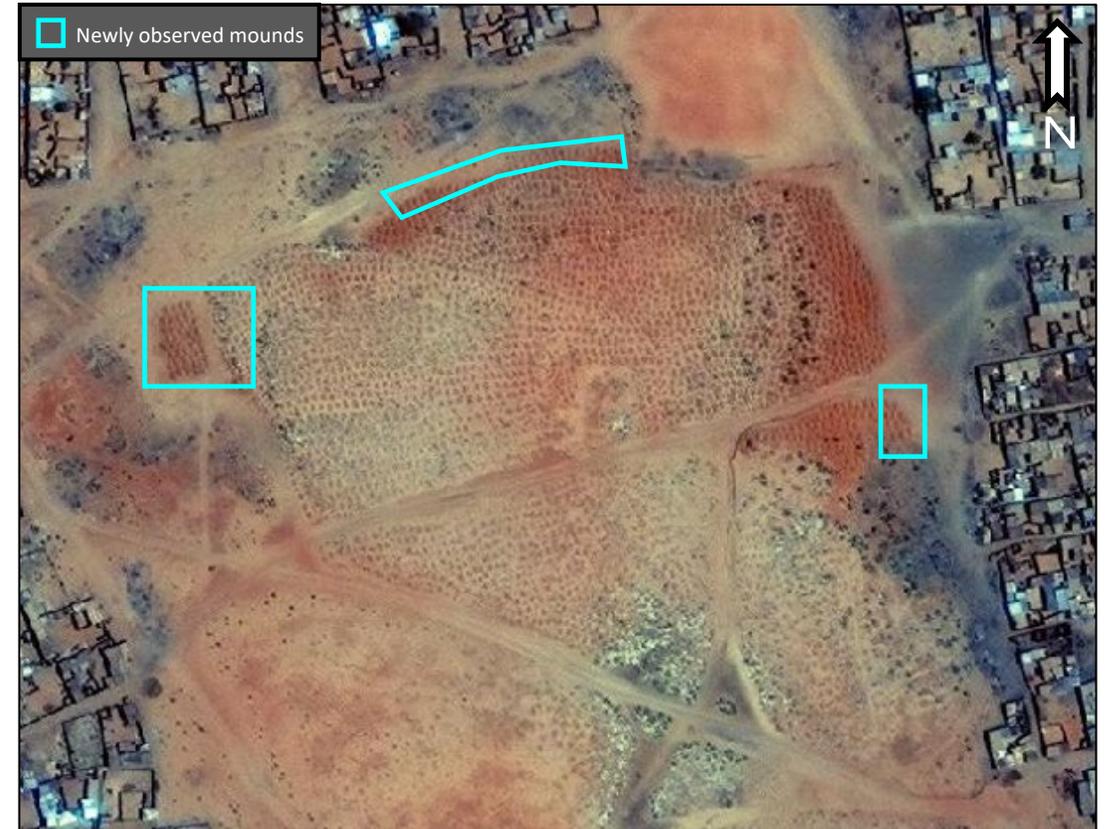
# Navaisha Cemetery Expansion

## NEW GROUND DISTURBANCE OBSERVED AT NAVAISHA CEMETERY

According to analysis of satellite imagery, newly observed ground disturbance was observed at Navaisha cemetery between 01 March and 20 May 2024. Of note, at least 65 mounds were identified at the northern area of the cemetery that measured between approximately 1.8 meters by 3 meters. Additionally, the small western plot continues to increase according to imagery collected between 23 and 26 May 2024.



01 March 2024 © 2024 Maxar, USG-Plus



20 May 2024 © 2024 Maxar, USG-Plus

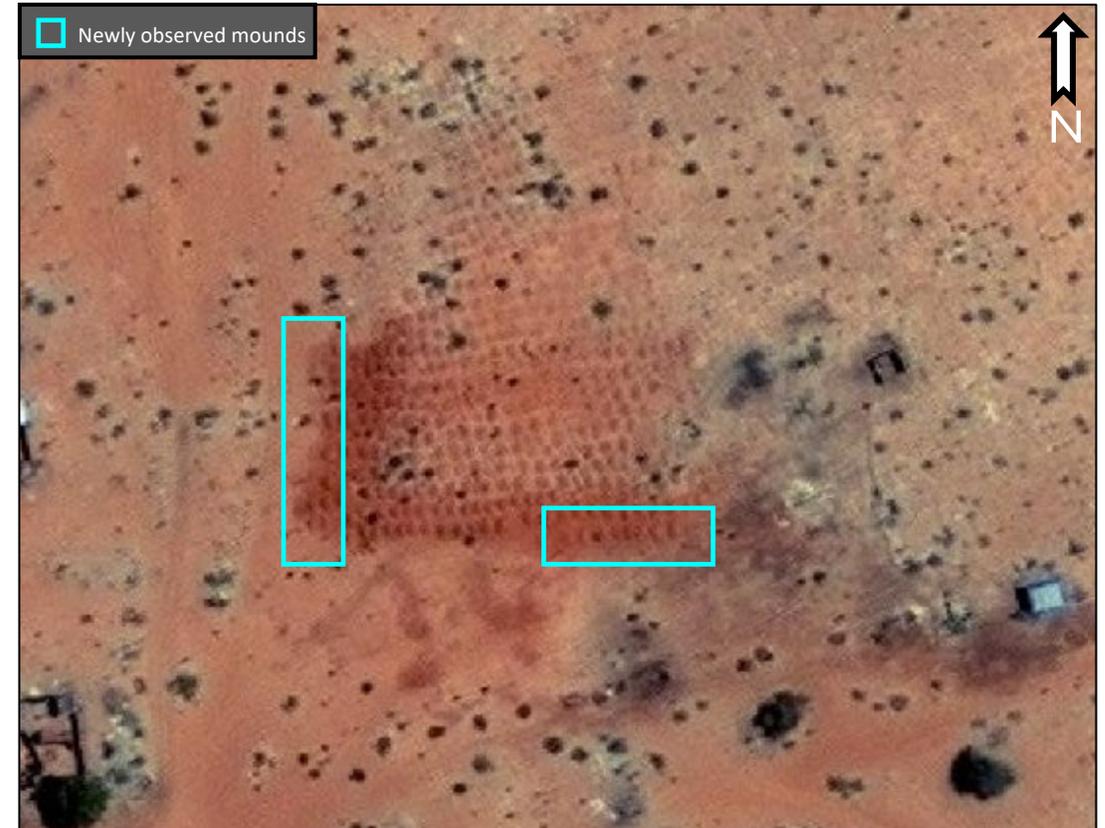
# Al-Nakhil Cemetery Expansion

## NEW GROUND DISTURBANCE OBSERVED AT THE AL-NAKHIL CEMETERY

According to analysis of satellite imagery, newly observed ground disturbance was identified at Al-Nakhil cemetery between 01 March and 20 May 2024. Of note, approximately nine newly observed mounds were identified at the cemetery.



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20 May 2024 © 2024 Maxar, USG-Plus

# Al-Qubat Cemetery Expansion

According to analysis of satellite imagery, approximately nine newly observed mounds were identified at Al-Qubat cemetery between 01 March and 20 May 2024.

## NEW GROUND DISTURBANCE OBSERVED AT AL-QUBAT CEMETERY



01 March 2024 © 2024 Maxar, USG-Plus



20 May 2024 © 2024 Maxar, USG-Plus

# Al-Rahma Cemetery Expansion

## NEW GROUND DISTURBANCE OBSERVED AT AL-RAHMA CEMETERY

Newly observed ground disturbances consistent with burial sites were observed at Al-Rahma cemetery between 01 March and 31 May 2024. At least 40 mounds were identified at the western and southern area of the cemetery and continue to increase according to imagery analysis.



01 March 2024 © 2024 Maxar, USG-Plus



31 May 2024 © 2024 Maxar, USG-Plus

# Activity at Al-Rahma Cemetery

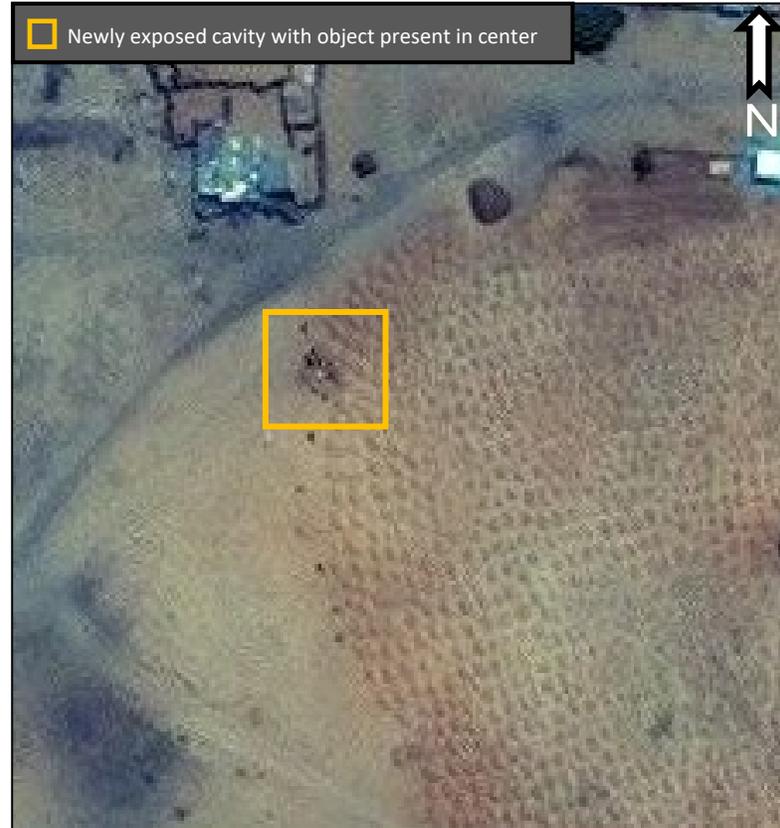
## POSSIBLE BURIAL ACTIVITY OBSERVED AT AL-RAHMA CEMETERY

According to analysis of satellite imagery, an exposed cavity of disturbed earth with an apparent object in its center is visible in 26 May 2024 imagery when compared to imagery on 23 May 2024.

In imagery collected on 27 May 2024, the cavity appears to be covered with earth.



23 May 2024 © 2024 Maxar, USG-Plus



26 May 2024 © 2024 Maxar, USG-Plus



27 May 2024 © 2024 Maxar, USG-Plus

# Likely Civilian Displacement on A5 Road from El-Fasher to Tawilah

According to analysis of satellite imagery, on 03 June 2024, approximately 47 vehicles are visible on the A5 road from El-Fasher towards Tawilah, including vehicles consistent with cargo trucks reported to be transporting displaced civilians from El-Fasher to Tawilah. Of note, 45 of the identified vehicles appear to be facing the direction of Tawilah. A checkpoint with is also identified on the A5 at crossing into Tawilah.



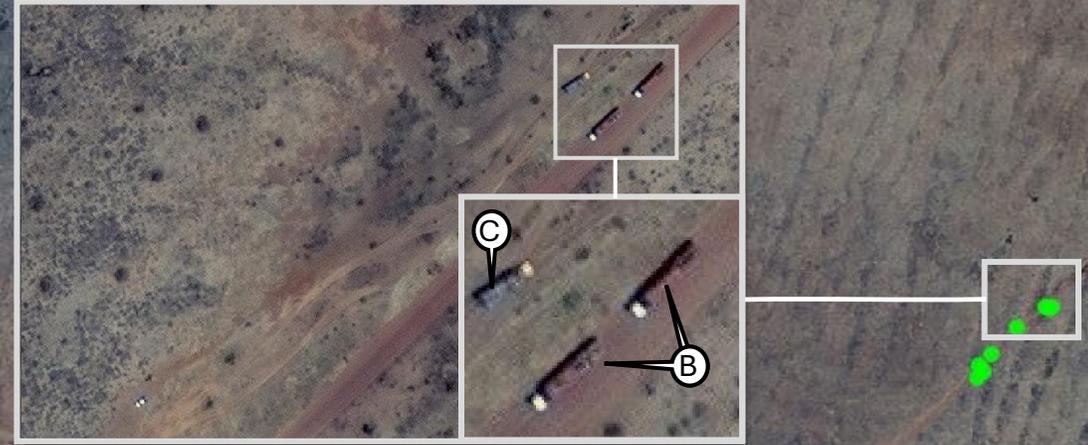
DOI: 03 June 2024

- A. Checkpoint
- B. 16m cargo truck
- C. 11m cargo truck
- Vehicle observed on A5 road

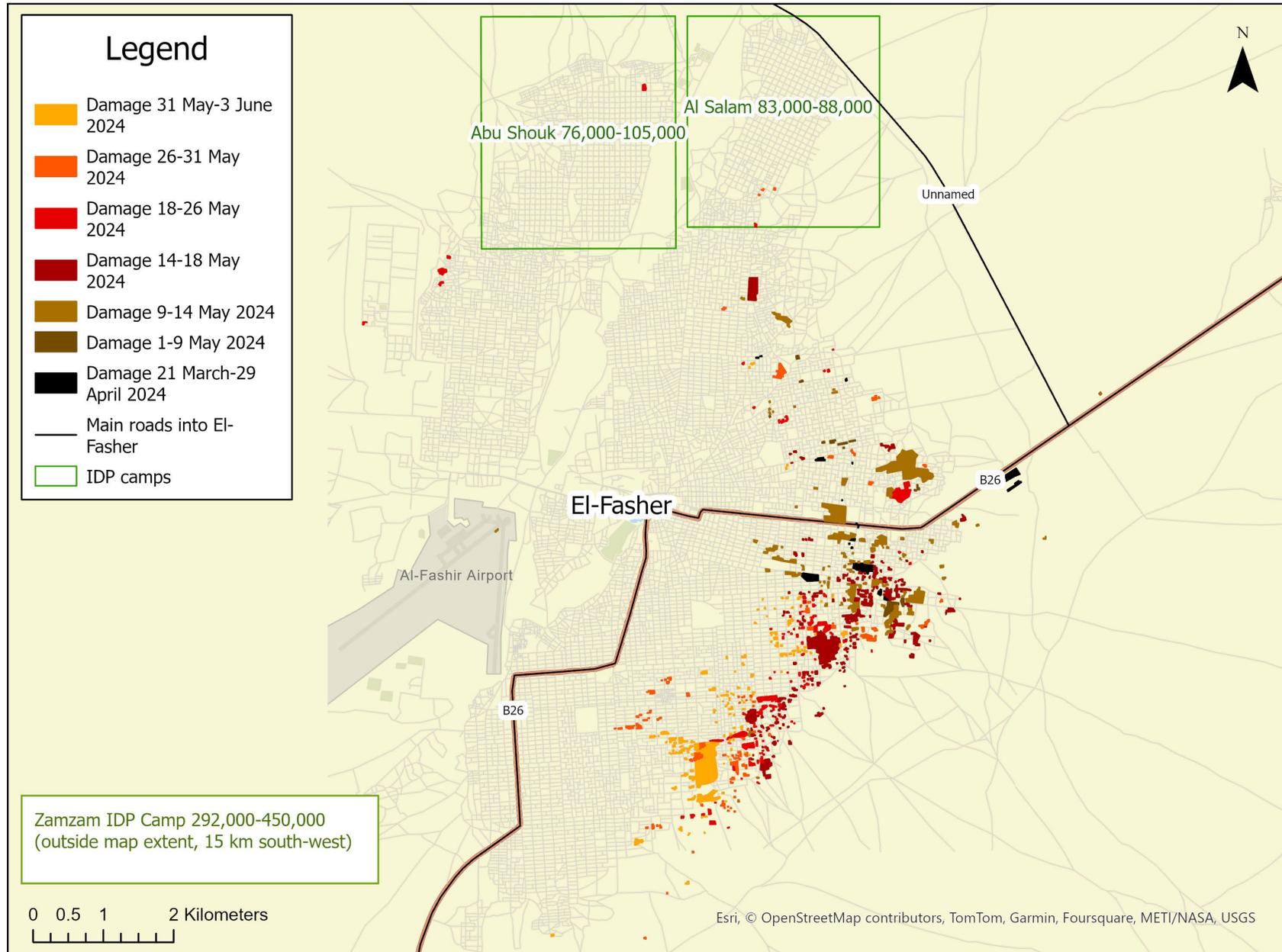


Example of open source visuals of displacement, including cargo trucks consistent with vehicles observed during a similar time period in satellite imagery analysis.

Tawilah



# Thermal scarring observed at El-Fasher between 21 March and 3 June 2024

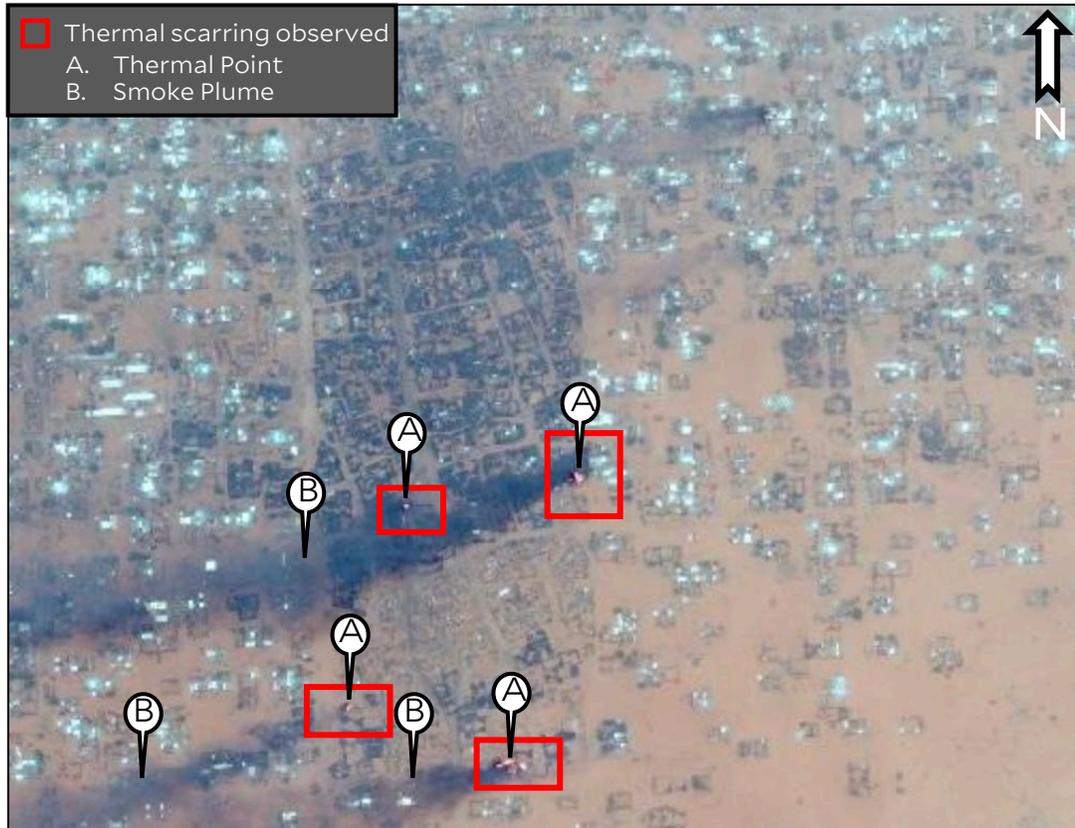


# South Neighborhoods, El-Fasher

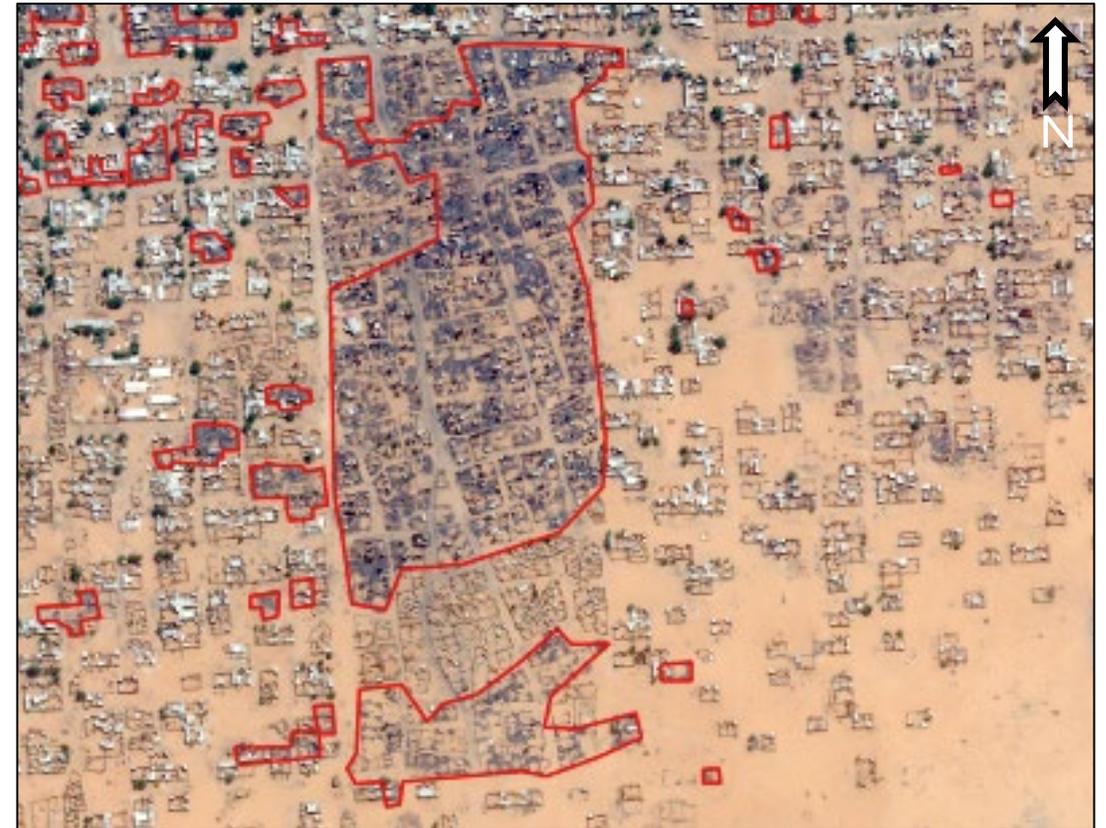
## NEW THERMAL SCARRING OBSERVED BETWEEN 1-3 JUNE 2024

According to analysis of satellite imagery, thermal scarring was observed between 1 and 3 June 2024, within the south sector of El-Fasher. The burnt structures in proximity to unburnt structures, as well as the absence of ground scorching between them indicate a targeted ground-based attack. The area inside the red outlines indicates new thermal scarring between 1 June – 3 June 2024.

Smoke plumes and active fire are visible in the 1 June satellite imagery.



1 June 2024 © 2024 Maxar, USG-Plus



3 June 2024 © 2024 Planet Labs

# Grand Market, Central El-Fasher

## MUNITIONS IMPACTS OBSERVED AT GRAND MARKET (SOUQ)

According to analysis of satellite imagery, damage was observed at Grand Market (Souq) between 28 May and 31 May. The Grand Market is situated near the B-26 road and is centrally located within El-Fasher.



28 May 2024 © 2024 Planet Labs



03 June 2024 © 2024 Planet Labs

# Eastern El-Fasher City

## DESTROYED STRUCTURE OBSERVED

According to analysis of satellite imagery, between 28 May and 03 June, multiple structures were destroyed in eastern El Fasher. The location is approximately 1km west of the El Fasher power station.

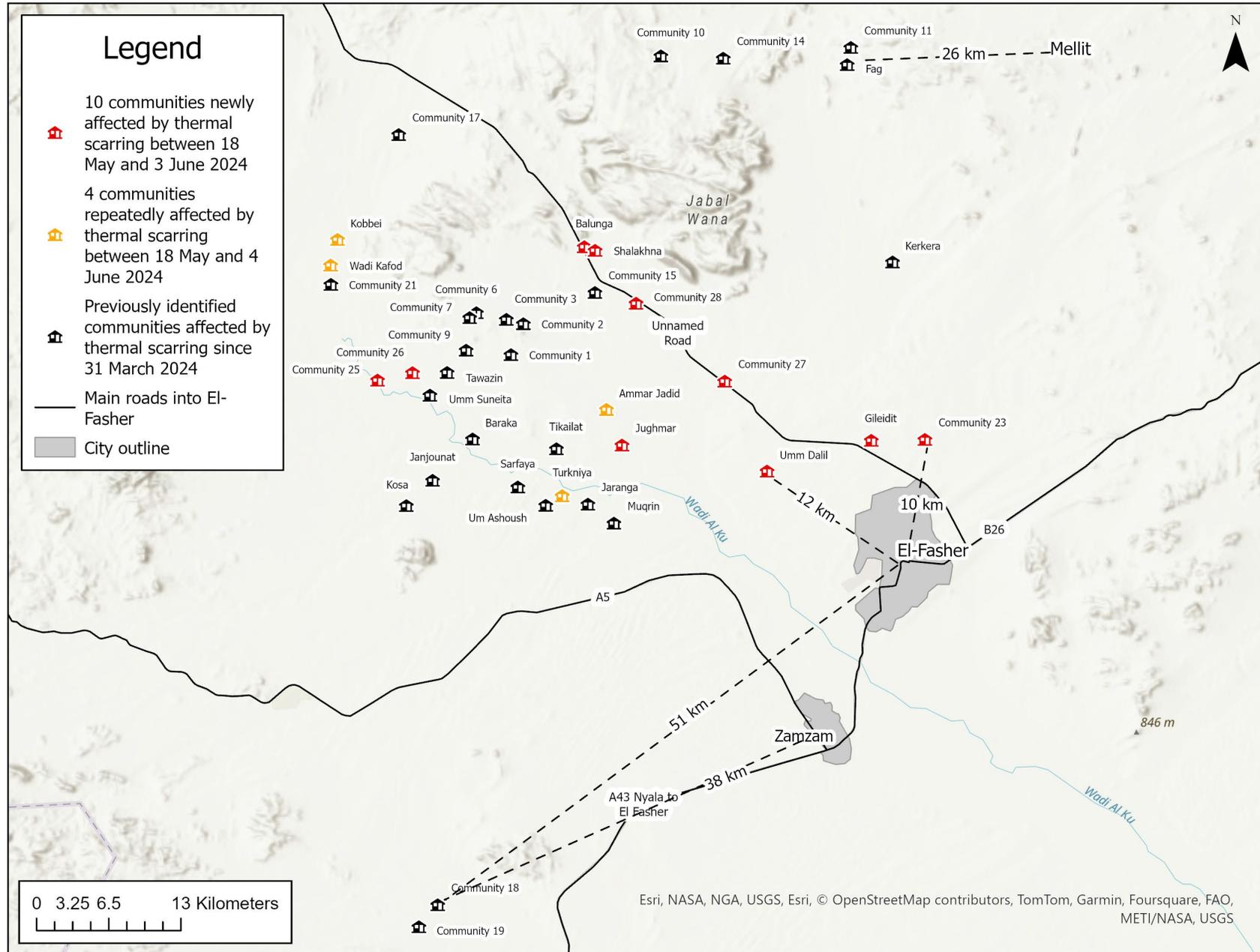


28 May 2024 © 2024 Planet Labs



03 June 2024 © 2024 Planet Labs

# Communities affected by thermal scarring between 31 March and 4 June 2024



Note: Gileidit and “Unidentified Community 23” sustained thermal scarring between 20-26 May, previously reported in Caitlin N. Howarth, Kaveh Khoshnood, Nathaniel A. Raymond et al. “RSF Burning Agricultural Communities Close to El-Fasher and Razing of Civilian Dwellings inside the City.” 29 May 2024. Humanitarian Research Lab at Yale School of Public Health: New Haven, [https://medicine.yale.edu/lab/khoshnood/publications/hrl-report-may29-2024\\_479921\\_284\\_26865\\_v1.pdf](https://medicine.yale.edu/lab/khoshnood/publications/hrl-report-may29-2024_479921_284_26865_v1.pdf), archived at <https://perma.cc/R5QC-4MPV>.

# Jughmar, North Darfur

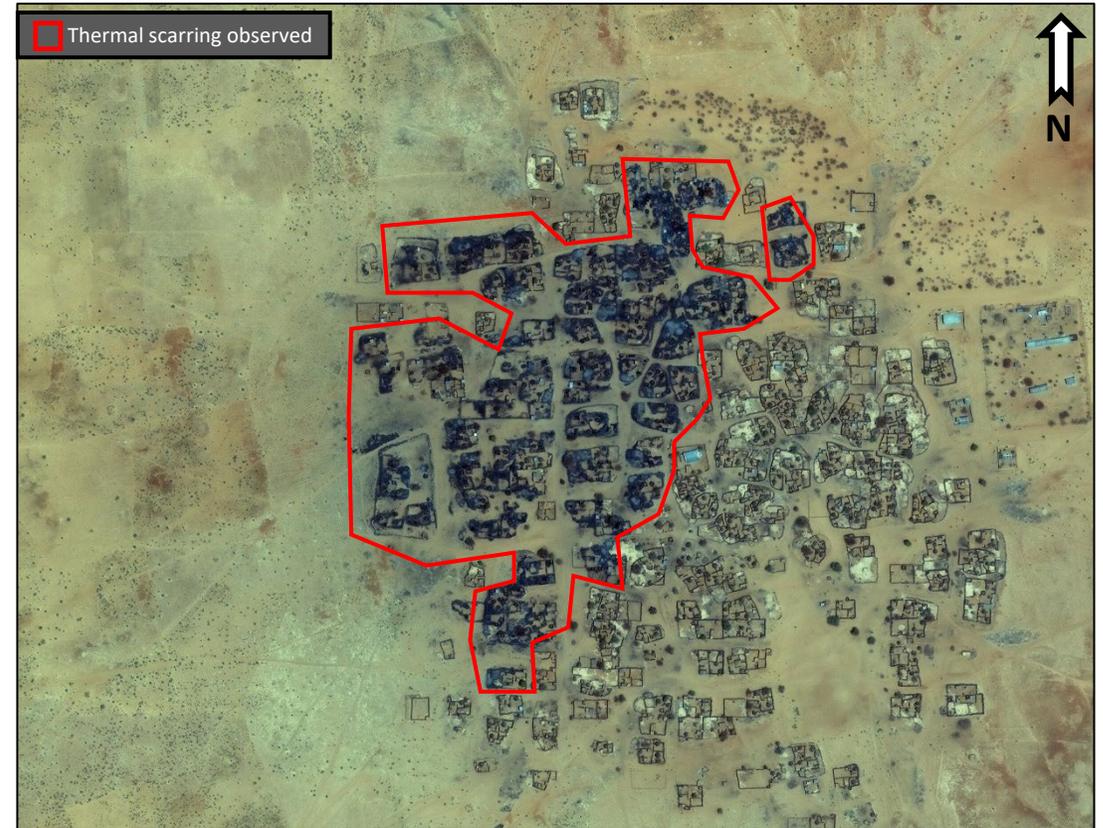
NEW THERMAL SCARRING OBSERVED  
BETWEEN 26 MAY-03 JUNE 2024

According to analysis of satellite imagery, thermal scarring was observed between 26 May and 03 June 2024, within Jughmar, 25 km west of central El-Fasher.



25.1270663°E 13.7156808°N

26 May 2024 © Maxar, USG-Plus



25.1270663°E 13.7156808°N

03 June 2024 © 2024 Maxar, USG-Plus

# Balunga, North Darfur

NEW THERMAL SCARRING OBSERVED  
BETWEEN 26 MAY-03 JUNE 2024

According to analysis of satellite imagery, thermal scarring was observed between 26 May and 03 June 2024, within Balunga, 39 km northwest of central El-Fasher.



25.0973716°E 13.8736380°N

26 May 2024 © Maxar, USG-Plus



25.0973716°E 13.8736380°N

03 June 2024 © 2024 Maxar, USG-Plus

# Shalakhna, North Darfur

NEW THERMAL SCARRING OBSERVED  
BETWEEN 26 MAY-03 JUNE 2024

According to analysis of satellite imagery, thermal scarring was observed between 26 May and 03 June 2024, within Shalakhna, 39 km northwest of central El-Fasher.



25.1065345°E 13.8702611°N

26 May 2024 © Maxar, USG-Plus



25.1065345°E 13.8702611°N

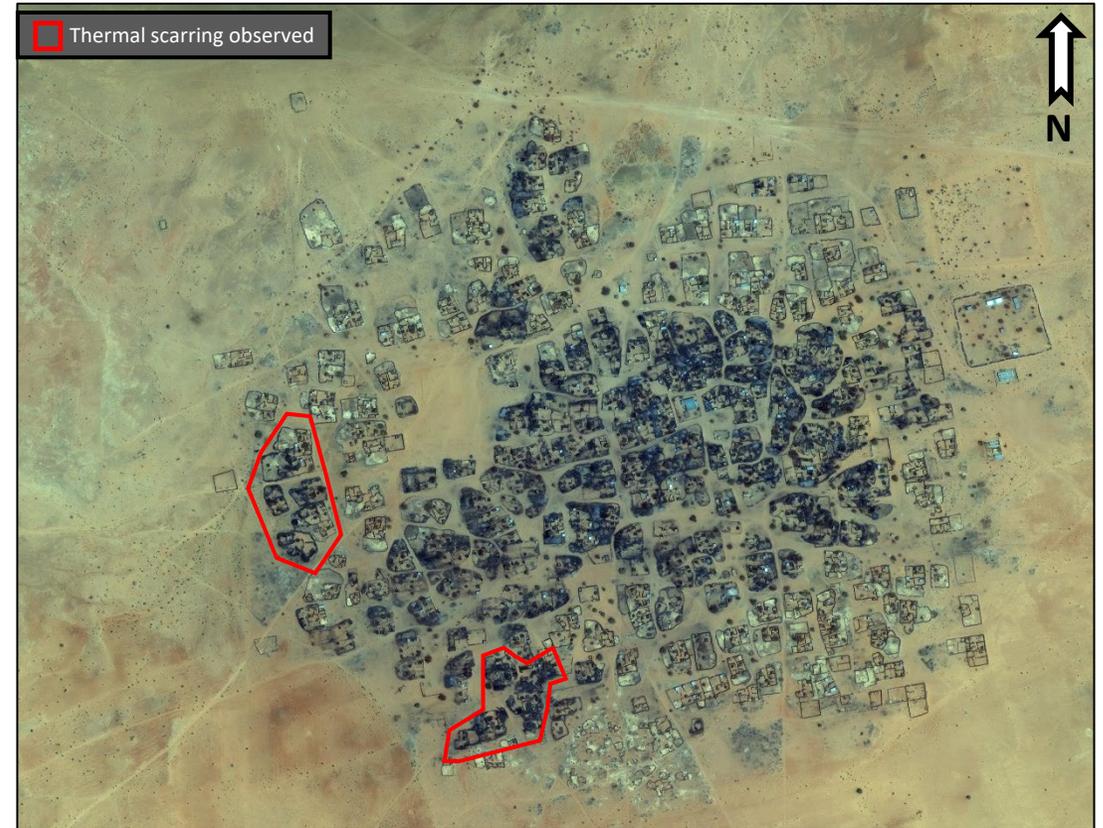
03 June 2024 © 2024 Maxar, USG-Plus

# Ammar Jadid, North Darfur

NEW THERMAL SCARRING OBSERVED  
BETWEEN 26 MAY-03 JUNE 2024

According to analysis of satellite imagery, thermal scarring was observed between 26 May and 03 June 2024, within Ammar Jadid, 28 km west of central El-Fasher.

Thermal scarring at the same community was previously observed between 15 and 20 April, 18 and 20 May, and 20 and 26 May 2024 .



25.1150098°E 13.7435701°N

26 May 2024 © Maxar, USG-Plus

25.1150098°E 13.7435701°N

03 June 2024 © 2024 Maxar, USG-Plus

# Umm Dalil, North Darfur

NEW THERMAL SCARRING OBSERVED  
BETWEEN 26-31 MAY 2024

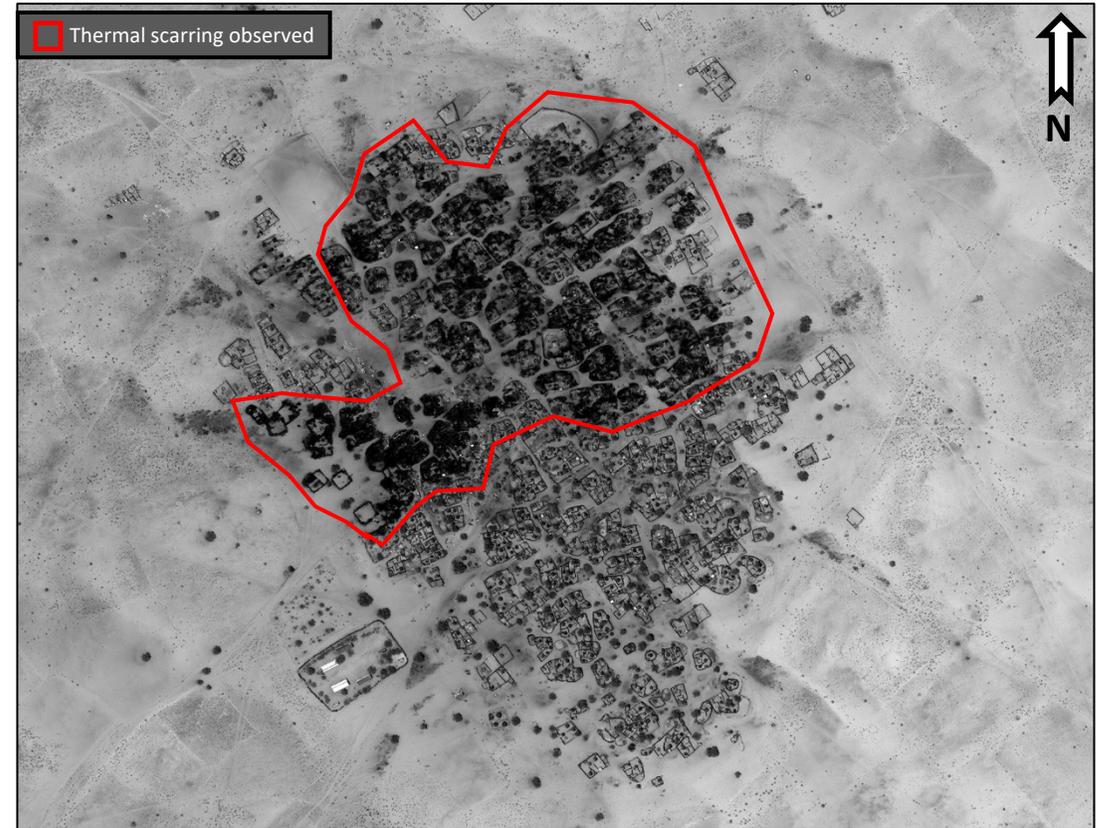
According to analysis of satellite imagery, thermal scarring was observed between 26 and 31 May 2024, within Umm Dalil, 12 km west of central El-Fasher.

This is the first instance that visible thermal scarring has been identified in Umm Dalil since 1 April 2024.



25.2446188°E 13.6944975°N

26 May 2024 © Maxar, USG-Plus



25.2446188°E 13.6944975°N

31 May 2024 © 2024 Maxar, USG-Plus

# Community 25, North Darfur

NEW THERMAL SCARRING OBSERVED  
BETWEEN 18 MAY AND 03 JUNE 2024

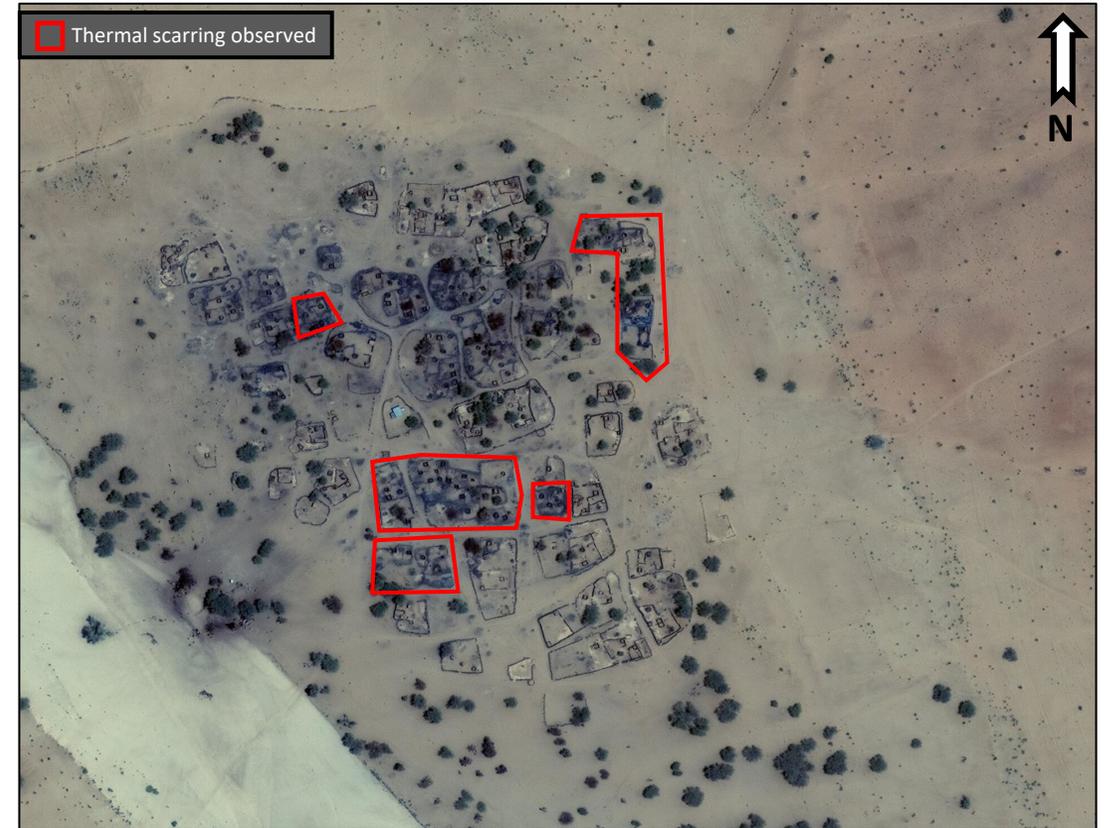
According to analysis of satellite imagery, thermal scarring was observed between 18 May and 03 June 2024, within Community 25, 33 km west of central El-Fasher.

Thermal scarring at the same community was previously observed between 25 February and 18 May 2024.



24.9301072°E 13.7673972°N

18 May 2024 © Maxar, USG-Plus



24.9301072°E 13.7673972°N

3 June 2024 © 2024 Maxar, USG-Plus

# Community 26, North Darfur

NEW THERMAL SCARRING OBSERVED  
BETWEEN 18 MAY AND 03 JUNE 2024

According to analysis of satellite imagery, thermal scarring was observed between 18 May and 03 June 2024, within Community 26, 46 km west of central El-Fasher.



24.9574483°E 13.7732514°N

18 May 2024 © Maxar, USG-Plus



24.9574483°E 13.7732514°N

3 June 2024 © 2024 Maxar, USG-Plus

# Community 27, North Darfur

NEW THERMAL SCARRING OBSERVED  
BETWEEN 26 MAY AND 03 JUNE 2024

According to analysis of satellite imagery, thermal scarring was observed between 26 May and 03 June 2024, within Community 27, 22 km west of central El-Fasher.



25.2106803°E 13.7663799N

26 May 2024 © Maxar, USG-Plus



25.2106803°E 13.7663799N

03 June 2024 © 2024 Maxar, USG-Plus

# Community 28, North Darfur

NEW THERMAL SCARRING OBSERVED  
BETWEEN 26 MAY AND 03 JUNE 2024

Thermal scarring was observed in satellite imagery analysis between 26 May and 03 June 2024, in Community 28, 33 km west of central El-Fasher.

Thermal scarring at the same community was previously observed between 08 March and 24 April, 27 and 28 April, and 28 April and 03 May 2024.



25.1385884°E 13.8283185°N

26 May 2024 © Maxar, USG-Plus



25.1385884°E 13.8283185°N

03 June 2024 © 2024 Maxar, USG-Plus

# Wadi Kafod, North Darfur

NEW THERMAL SCARRING OBSERVED  
BETWEEN 18 MAY AND 03 JUNE 2024

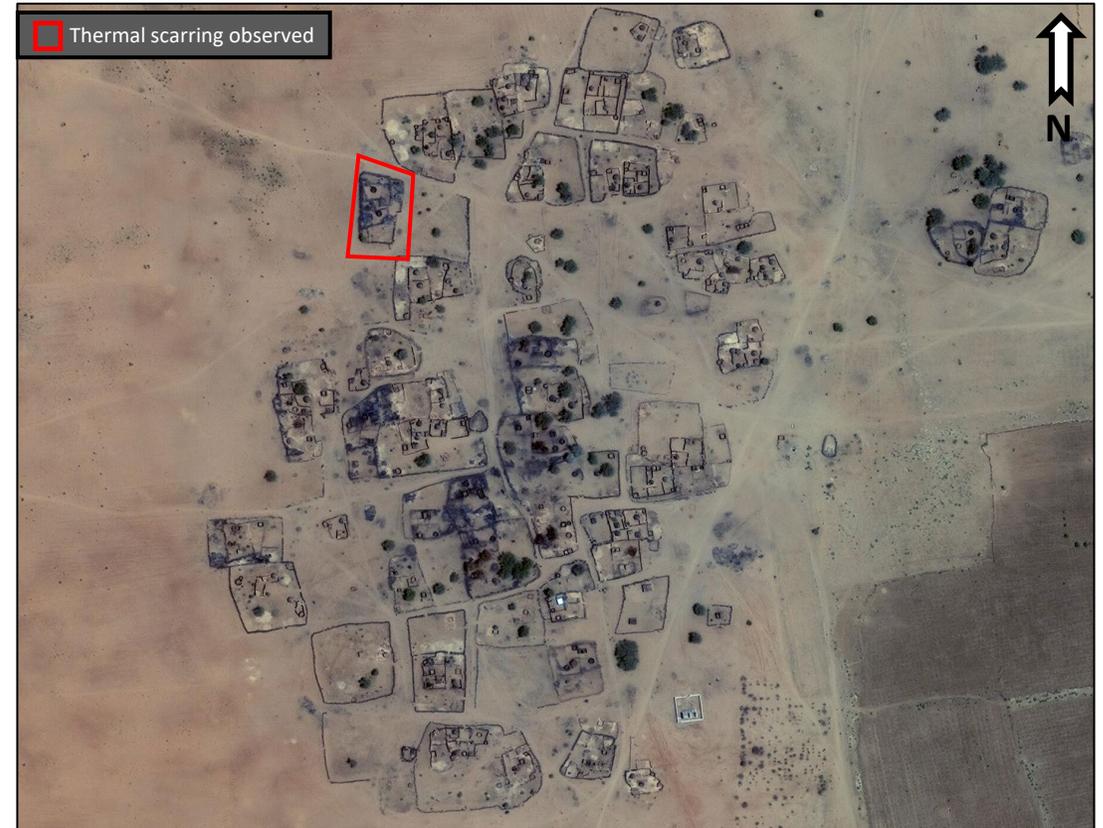
According to analysis of satellite imagery, thermal scarring was observed between 18 May and 03 June 2024, within Wadi Kafod, 56 km northwest of central El-Fasher.

Thermal scarring at the same community was previously observed 15 and 18 May, and 25 February and 15 May 2024.



24.8906182°E, 13.8603334°N

18 May 2024 © Maxar, USG-Plus



24.8906182°E 13.8603334°N

03 June 2024 © 2024 Maxar, USG-Plus

# Kobbei, North Darfur

NEW THERMAL SCARRING OBSERVED  
BETWEEN 18 MAY AND 03 JUNE 2024

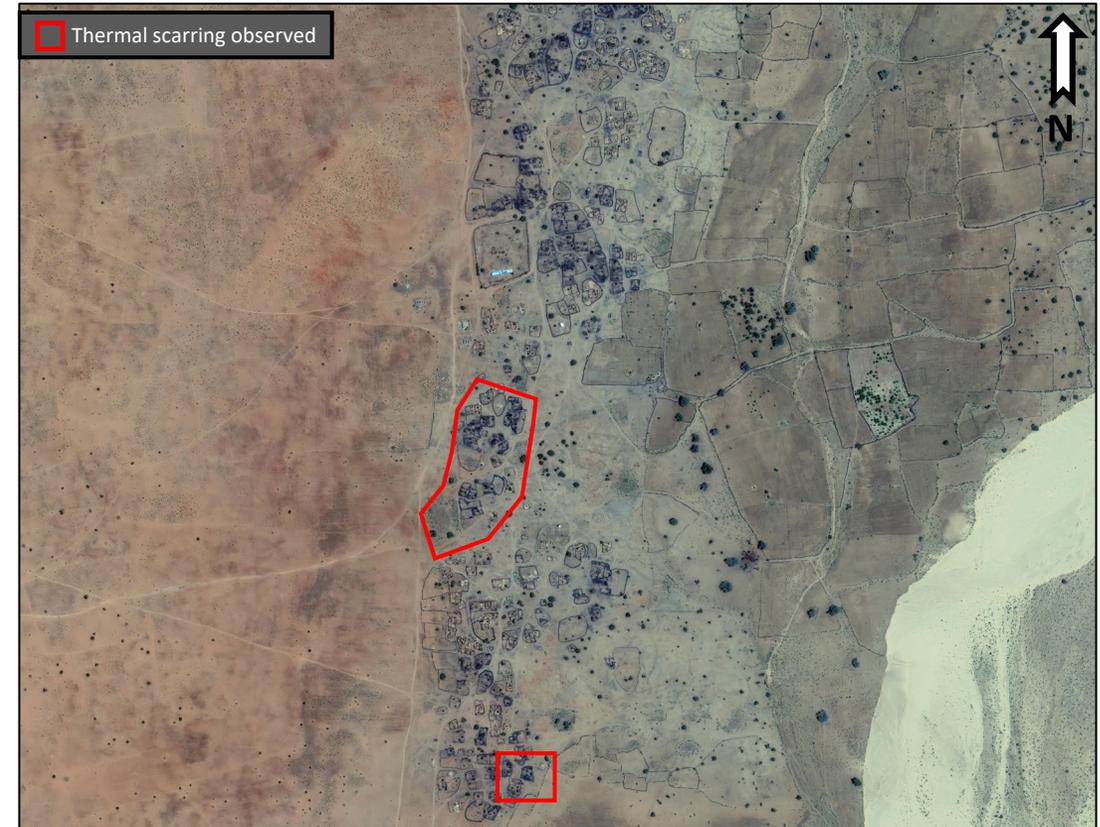
According to analysis of satellite imagery, thermal scarring was observed between 18 May and 03 June 2024, within Kobbei 56 km northwest of central El-Fasher.

Thermal scarring at the same community was previously observed 15 and 18 May, and 25 February and 15 May 2024.



24.8973415°E 13.8694423°N

18 May 2024 © Maxar, USG-Plus



24.8973415°E 13.8694423°N

03 June 2024 © 2024 Maxar, USG-Plus

# Turkniya, North Darfur

NEW THERMAL SCARRING OBSERVED  
BETWEEN 26 MAY AND 04 JUNE 2024

According to analysis of satellite imagery, thermal scarring was observed between 26 May and 04 June 2024, within Turkniya, 31 km west of central El-Fasher.

Thermal scarring at the same community was previously observed between 20 and 26 May, and 08 March and 24 April 2024.



25.0794095°E 13.6753813°N

26 May 2024 © Maxar, USG-Plus



25.0794095°E 13.6753813°N

04 June 2024 © 2024 Maxar, USG-Plus