

Tactical Changes in El-Fasher: Targeted Bombardment of Healthcare and Humanitarian Facilities

28 June 2024

Yale SCHOOL OF PUBLIC HEALTH
Humanitarian Research Lab

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I. Key Findings

Changes to Tactical Activities and Force Posture in El-Fasher

The Yale School of Public Health's Humanitarian Research Lab (HRL) assesses significant change to the tactical activities and force posture in El-Fasher after 12-14 June 2024.¹ Widespread thermal scarring and close quarter arson attacks have diminished significantly, while combatants appear to be increasing use of primary targeted munitions and reinforcing defensive positions in recent days.

Between 10 May and approximately 12 June 2024 there was significant targeted destruction of large tracts of civilian dwellings and neighborhoods consistent with close quarter arson attacks. These attacks included targeted individuated arson attacks on civilian dwellings and munitions impacts across neighborhoods in El-Fasher. Forty-three (43) communities west of El-Fasher have been razed by arson as evidenced by thermal scarring between 31 March – 12 June 2024.² On 13 June the United Nations Security Council passed UNSC Resolution 2736 which condemned the fighting in El-Fasher.³ On 14 June 2024, RSF Central Darfur Commander Ali Yacoub Gibril, sanctioned by the U.S. Treasury Department, was reportedly killed on 14 June 2024 by members of the Joint Forces while traveling through El-Fasher for medical treatment.⁴

Since 14 June 2024 Yale HRL has not identified significant VIIRS detections, which indicate thermal anomalies, at and around El-Fasher; the tempo of widespread thermal destruction has subsided. Only 0.044 square kilometers, equivalent to 3.83 football pitches, of El-Fasher have sustained thermal scarring between 12-20 June out of a total 2.151 square kilometers of thermal scarring assessed in El-Fasher since 21 May 2024.⁵ One of the only locations where thermal scarring observed was between 13-18 June near the B-26 road located approximately 200m from where RSF Commander Ali Yacob Gibril was allegedly killed. No new thermal scarring in El-Fasher has been identified between 20-26 June 2024. Yale HRL has not identified targeted arson attacks on communities outside El-Fasher since 12 June 2024.⁶

Between 20-26 June 2024 Yale HRL assesses that armed forces' postures and activities have pivoted: artillery bombardment, including targeted munitions impacts, appears to have resumed but Yale HRL does not assess close quarter burning. Yale HRL assesses multiple targeted munitions impacts, reportedly by RSF, at multiple healthcare facilities and government buildings in satellite imagery. During the same period, SAF appears to be reinforcing defensive positions. There has been an expansion of defensive positions visible in satellite imagery running north-south in the southern neighborhoods of El-Fasher; outside Abu Shouk IDP camp, defensive positions have significantly expanded between 20-26 June. There are additional munitions impacts at a community approximately 11 kilometers north of El-Fasher visible in satellite imagery between 13-17 June 2024. A crater consistent with an airstrike near previously-identified RSF positions in the north of El-Fasher is visible between 12-13 June 2024. Yale HRL cannot assess what led to the apparent tactical changes in El-Fasher.

Targeted attacks on Healthcare and Humanitarian Facilities

Using satellite imagery from 18 and 26 June 2024, Yale HRL corroborates targeted munitions impacts at two healthcare facilities in El-Fasher: Al-Saudi (Saudi) Hospital and the El-Fasher Dialysis Center. Médecins Sans Frontières (MSF) reported that RSF shelling hit the MSF-supported Al-Saudi Hospital pharmacy in El-Fasher, causing significant damage and killing a pharmacist.⁷ On 23 June, the El-Fasher Dialysis Center was also reportedly subjected to RSF artillery shelling that resulted in a fire and significant damage to the entire facility.⁸ Yale HRL assesses that both the Al-Saudi Hospital's pharmacy and the Dialysis Center were specifically targeted by munitions. The Iqra Hospital, a private healthcare facility, was reportedly subjected to artillery shelling by RSF on 25 June 2024, but Yale HRL could not corroborate these reports using satellite imagery at this time.⁹

On 27 June 2024 reported RSF shelling of Abu Shouk IDP camp killed four people, injured twelve others, and damaged a World Food Programme (WFP)-affiliated malnutrition treatment facility.¹⁰ Yale HRL has corroborated the destruction of the WFP facility using satellite imagery collected on 27 June 2024. An official at the Ministry of Health in North Darfur alleged that this attack destroyed storage containing treatment for children suffering from malnutrition.¹¹

Targeted Munitions Strikes on Government Buildings

Yale HRL corroborates reports of targeted munitions impact to the North Darfur Legislative Building and identifies similar damage to another government building in satellite imagery between 22 and 26 June 2024. These government buildings are in the Souq neighborhood and show visible signs of damage due to munitions impact from above. Open sources reported that RSF shelling damaged the North Darfur Legislative Building on 24 June.¹² The apparent impact damage to the buildings' roofs, as well as the absence of damage to adjacent buildings or munition impact craters on the ground, is consistent with the intentional targeting of these facilities.

Internally Displaced Persons Identified across Tawilah

Yale HRL corroborates widespread civilian displacement to Tawilah in satellite imagery. Over two hundred temporary structures consistent with internally displaced persons (IDP) encampments are newly present in satellite imagery throughout Tawilah, North Darfur between 09 – 16 June 2024. These structures are present after Yale HRL identified vehicles consistent with civilian displacement between El-Fasher and Tawilah and open sources widely reported that civilians in El-Fasher were fleeing to Tawilah.¹³ The United Nations Office for the Coordination of Humanitarian Affairs (OCHA) reported on 24 June 2024 that an estimated 143,000 civilians have been displaced from El-Fasher locality since mid-April 2024.¹⁴ Open sources reported that those displaced have fled from El-Fasher to Tawilah, North Darfur, since or around 26 May 2024, which includes an estimated 34,000 in Tawilah and surrounding localities.¹⁵ Yale HRL cannot now corroborate the estimated number of IDPs who have fled to Tawilah prior to 26 May 2024. Tawilah is under the control of SPLA-AW Al-Nur, which is not known to have engaged in the fighting in El-Fasher to date. However, there are significant shortages of food, water, medicine, and other humanitarian supplies reported in Tawilah.¹⁶

II. Human Security Analysis

On 13 June the United Nations Security Council passed (UNSC) Resolution 2736 which demands that the Rapid Support Forces (RSF) halt a siege and deescalate the fighting in El-Fasher, North Darfur.¹⁷ The UNSC Resolution 2736 demands that warring parties adhere to international humanitarian law by protecting healthcare facilities and civilians from conflict. The resolution further demands that warring parties allow civilians to move safely within and outside of El-Fasher city and locality.¹⁸

The damage to medical facilities documented in this report indicates likely intentional targeting of healthcare infrastructure and has significant impacts for human security in El-Fasher and throughout North Darfur. The Al-Saudi Hospital, whose pharmacy was recently destroyed, is the only major hospital that is reportedly operational in El-Fasher. Open sources reported on 27 June 2024 that the Al-Saudi Hospital has sustained additional munitions impacts that damaged a water tank and the ceiling of an operating room.¹⁹ Yale HRL is not able to confirm these reports at this time. The Dialysis Center, which was rendered out of service due to damage, is reportedly the only dialysis facility in North Darfur state.²⁰

Healthcare facilities and medical personnel are critical protected objects under international law. The high rate of medical facility damage despite significant distance between these facilities, as well as the lack of external thermal and ground scarring or incidental damage to surrounding structures, indicate likely selection and targeting of medical facilities. These allegedly targeted attacks may constitute war crimes under the Rome Statute of the International Criminal Court (ICC).²¹ Additionally, attacks on healthcare facilities directly contravenes UNSC Resolution 2736.²²

On 22 June, MSF reported that over 260 people had been killed and over 1,630 wounded in El-Fasher over the past six weeks.²³ UNICEF reported on 26 June 2024 that more than 400 children have been killed or injured in El Fasher in the past seven weeks.²⁴ These figures almost certainly underestimate the true number of casualties.

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.

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

Satellite imagery analysis is limited by available imagery over time and space. 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.

¹ Caitlin N. Howarth, Kaveh Khoshnood, Nathaniel A. Raymond et al. "Special Report: Cargo Plane over RSF Territory & Continued Civilian Displacement from El-Fasher" 12 June 2024. Humanitarian Research Lab at Yale School of Public Health: New Haven, https://medicine.yale.edu/lab/khoshnood/publications/cargo-plane-over-rsf-territory-06-12-2024_480446_284_26865_v3.pdf, archived at <https://perma.cc/GKL9-F4XB>; Caitlin N. Howarth, Kaveh Khoshnood, Nathaniel A. Raymond et al. "SPECIAL REPORT El-Fasher: State of Crisis." 5 June 2024. Humanitarian Research Lab at Yale School of Public Health: New Haven, https://medicine.yale.edu/lab/khoshnood/publications/special-report-el-fasher-jun-5_480113_284_26865_v1.pdf, archived at <https://perma.cc/6KRZ-94K8>; 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 archived at <https://perma.cc/R5QC-4MPV>; Caitlin N. Howarth, Kaveh Khoshnood, Nathaniel A. Raymond et al. "Fighting in Abu Shouk IDP Camp, El-Fasher North Darfur, 20-23 May 2024" 23 May 2024. Humanitarian Research Lab at Yale School of Public Health: New Haven, https://medicine.yale.edu/lab/khoshnood/publications/2024-05-23-yale-hrl-abu-shouk_479816_284_26865_v1.pdf, archived at <https://perma.cc/9WRG-FEQY>; Caitlin N. Howarth, Kaveh Khoshnood, Nathaniel A. Raymond et al. "RSF Advances in El-Fasher as Conflict-Related Damage Intensifies, 14-20 May 2024" 21 May 2024. Humanitarian Research Lab at Yale School of Public Health: New Haven, CT https://medicine.yale.edu/lab/khoshnood/publications/hrl-report-21-05-2024_479697_284_26865_v1.pdf archived at <https://perma.cc/HK4K-Z375>; Caitlin N.

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² *Ibid*

³ United Nations Security Council "Resolution 2736 (2024)", 13 June 2024, <https://documents.un.org/doc/undoc/gen/n24/170/02/pdf/n2417002.pdf?token=8D0d2iGom73RcHpj3s&fe=true>, <https://archive.ph/jU6Tx>.

⁴ Sudan Tribune, "High-ranking RSF Commander killed amidst fierce fighting in El-Fasher", June 14, 2024, <https://sudantribune.com/article286999/>, archived at <https://archive.ph/CYtqM>; U.S. Department of the Treasury, "Treasury Sanctions Sudanese Rapid Support Forces Commanders Expanding War", May 15, 2024, <https://home.treasury.gov/news/press-releases/jy2340>, archived at <https://perma.cc/U69L-C3YW>; HRL_MMC_0027

⁵ The definition of football pitches aligns with the FIFA standard football pitches.

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Al-Saudi Hospital Pharmacy, El-Fasher

DAMAGE OBSERVED BETWEEN 18-26 JUNE 2024

According to satellite imagery analysis, significant damage with collapsed roof is observed at the Al-Saudi Hospital Pharmacy in El-Fasher between 18 and 26 June 2024. Open sources reported damage to Al-Saudi Hospital on 21 June 2024.

The apparent damage to the roof and internal structure of the main structure, as well as the absence of external thermal ground scarring or damage to adjacent buildings, is consistent with intentional targeting of this facility.



18 June 2024 © Maxar Technologies



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Maxar MGP Pro with HD filter enhancement used for the rendering of the 18 and 26 June 2024 images



Dialysis Center in El-Fasher

DAMAGE OBSERVED BETWEEN 22-26 JUNE 2024

According to satellite imagery analysis, damage is observed between 22 and 26 June 2024 at the Dialysis Center in El-Fasher. The structure roof appears collapsed and possibly scorched by fire within the confines of the building. This is further supported with ground-level video that shows smoke at the compound on 23 June 2024.

The apparent damage to dialysis center's internal structure and roof, as well as the absence of external thermal ground scarring or damage to adjacent buildings, is consistent with intentional targeting of this facility.



22 June 2024 © Maxar Technologies



26 June 2024 © 2024 Maxar Technologies

Maxar MGP Pro with HD filter enhancement used for the rendering of 22 and 26 June 2024 images

SOURCE: @ArkoMinawi (on X formerly known as Twitter), "مليشا الدعم السريع حكمت بالإعدام", June 23, 2024, <https://x.com/ArkoMinawi/status/1804952988882022695>, archived at <https://perma.cc/87L5-T8TQ>

World Food Programme (WFP)-Affiliated Malnutrition Treatment Center, Abu Shouk IDP Camp

According to satellite imagery analysis, significant damage is observed between 26 and 27 June at the World Food Programme (WFP)-affiliated malnutrition treatment facility in Abu Shouk IDP camp. Open sources reported damage to the facility on 27 June 2024.

DAMAGE OBSERVED 26-27 JUNE 2024

The apparent damage to the facility's internal structure and roof, as well as the absence of external thermal ground scarring or damage to adjacent buildings, is consistent with intentional targeting of this facility.



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27 June 2024 © 2024 Planet Labs



Open source photo of damaged facility

North Darfur Legislative Building and Government Building, Souq Neighborhood, El-Fasher

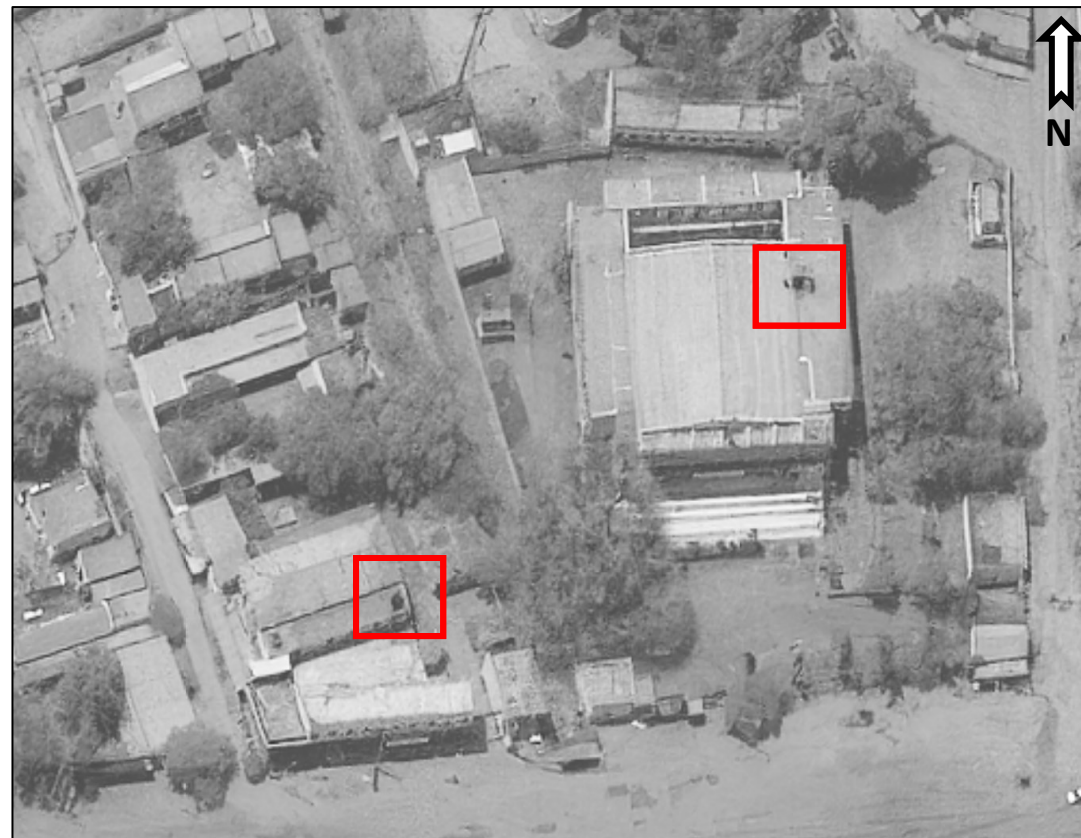
DAMAGE OBSERVED TO TWO GOVERNMENT BUILDINGS BETWEEN 22-26 JUNE 2024

According to satellite imagery analysis, two government office buildings in central El-Fasher show visible signs of damage due to munitions impact from above between 22 and 26 June 2024.

The apparent damage to the buildings' roofs from munition impacts, as well as the absence of damage to adjacent buildings or presence of munition impact craters on the ground, is consistent with intentional targeting of these facilities.



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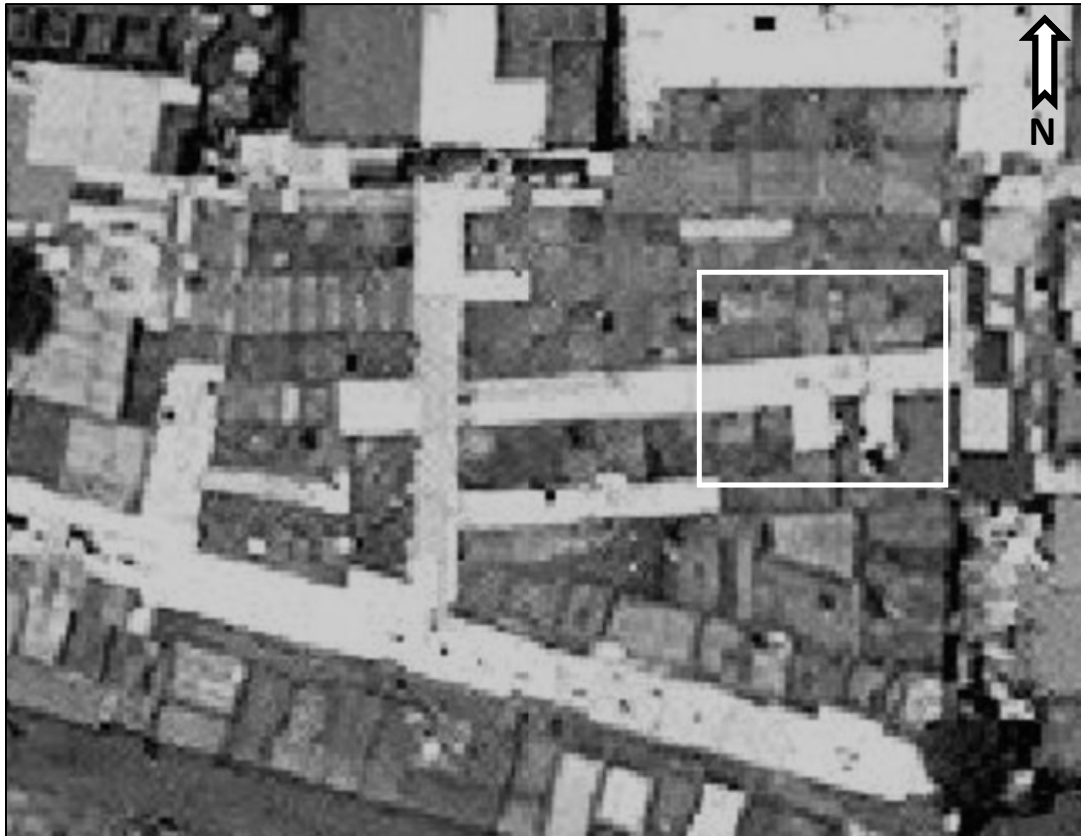
Maxar MGP Pro with HD filter enhancement used for the rendering of 26 June 2024 image

Grand Market (Souq), El-Fasher

DAMAGE OBSERVED BETWEEN 31 MAY-06 JUNE 2024

According to satellite imagery analysis, structures in the Souq (Grand Market) show signs of damage consistent with munitions impact from above between 31 May and 06 June 2024.

The absence of munitions impact craters, additional damage to adjacent buildings, or external thermal ground scarring is consistent with intentional targeting of this location.



31 May 2024 © Maxar, USG-Plus



06 June 2024 © 2024 Maxar Technologies

Maxar MGP Pro with HD filter enhancement used for the rendering of 06 June 2024 image

El-Fasher

SMOKE AND STRUCTURAL DAMAGE OBSERVED BETWEEN 22-26 JUNE 2024

According to satellite imagery analysis, structural damage consistent with bombardment was observed between 22 and 26 June 2024 within a neighborhood of east El-Fasher.



22 June 2024 © Maxar Technologies



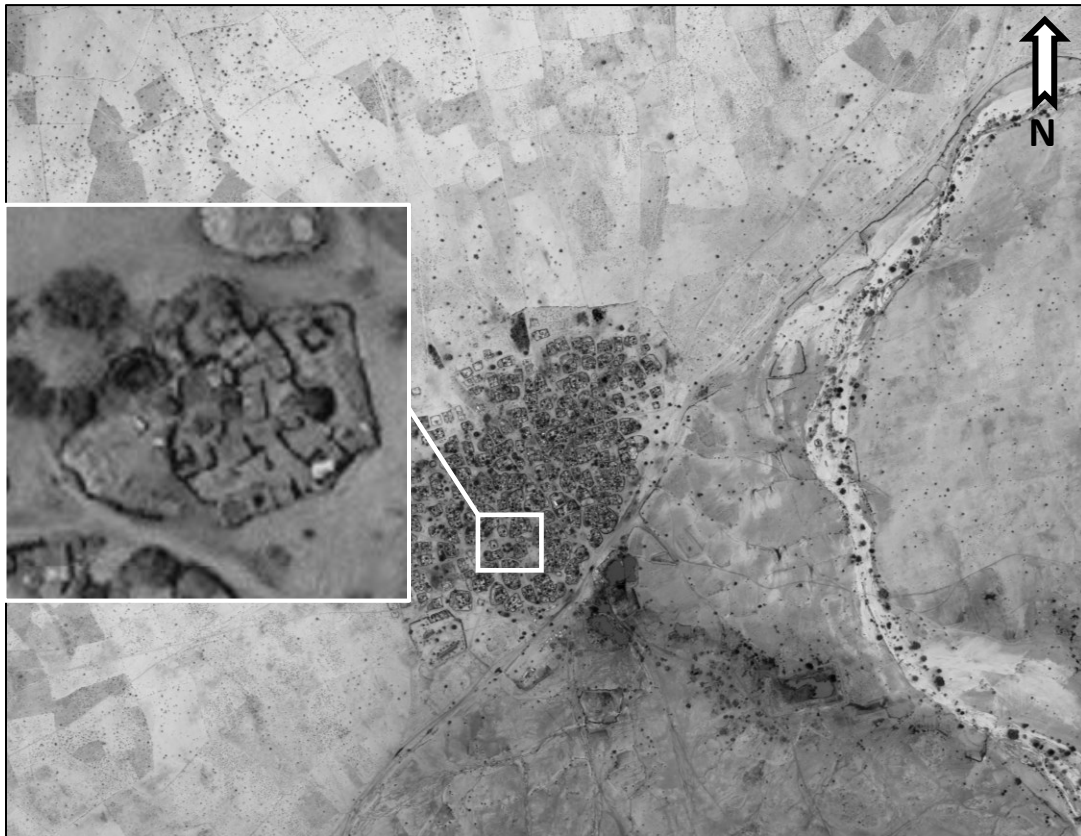
26 June 2024 © 2024 Maxar Technologies

Maxar MGP Pro with HD filter enhancement used for the rendering of 22 and 26 June 2024 images

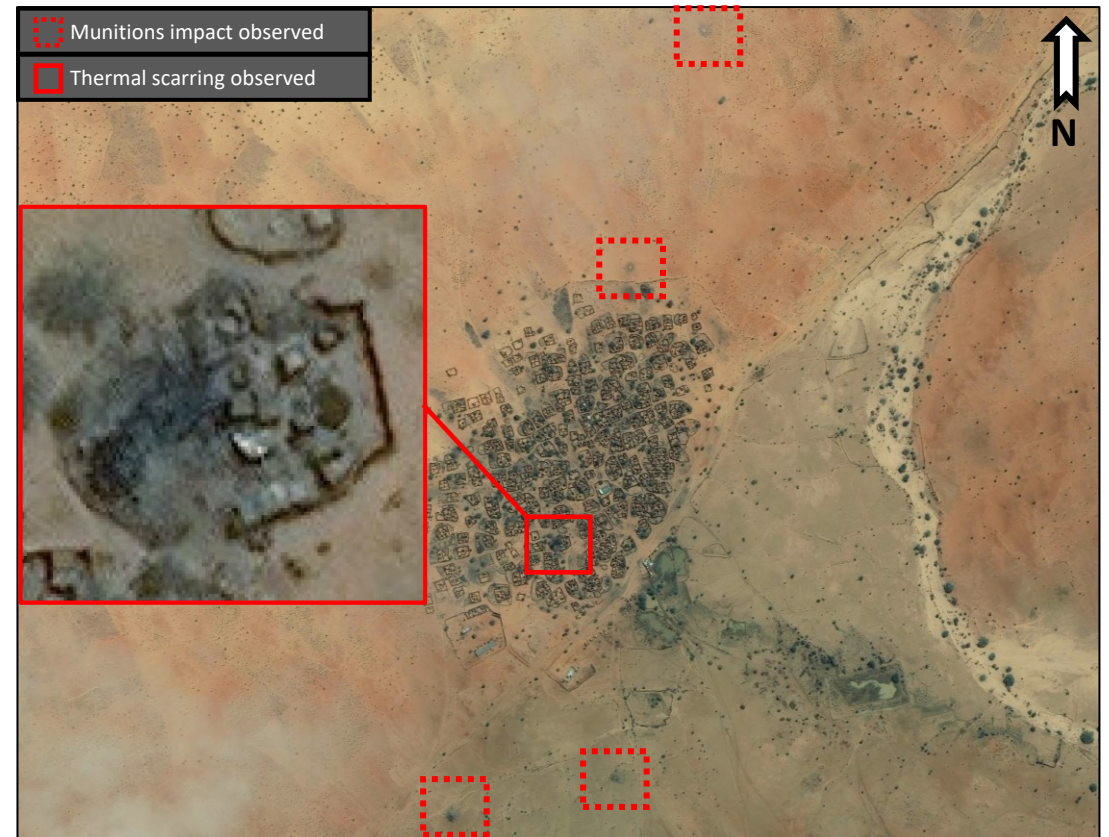
Community North of El-Fasher

NEW MUNITIONS IMPACTS AND THERMAL SCARRING OBSERVED BETWEEN 13-17 JUNE 2024

Satellite imagery analysis shows four new munitions impacts and thermal scarring in a village approximately 11 km north of El-Fasher between 13 and 17 June 2024.

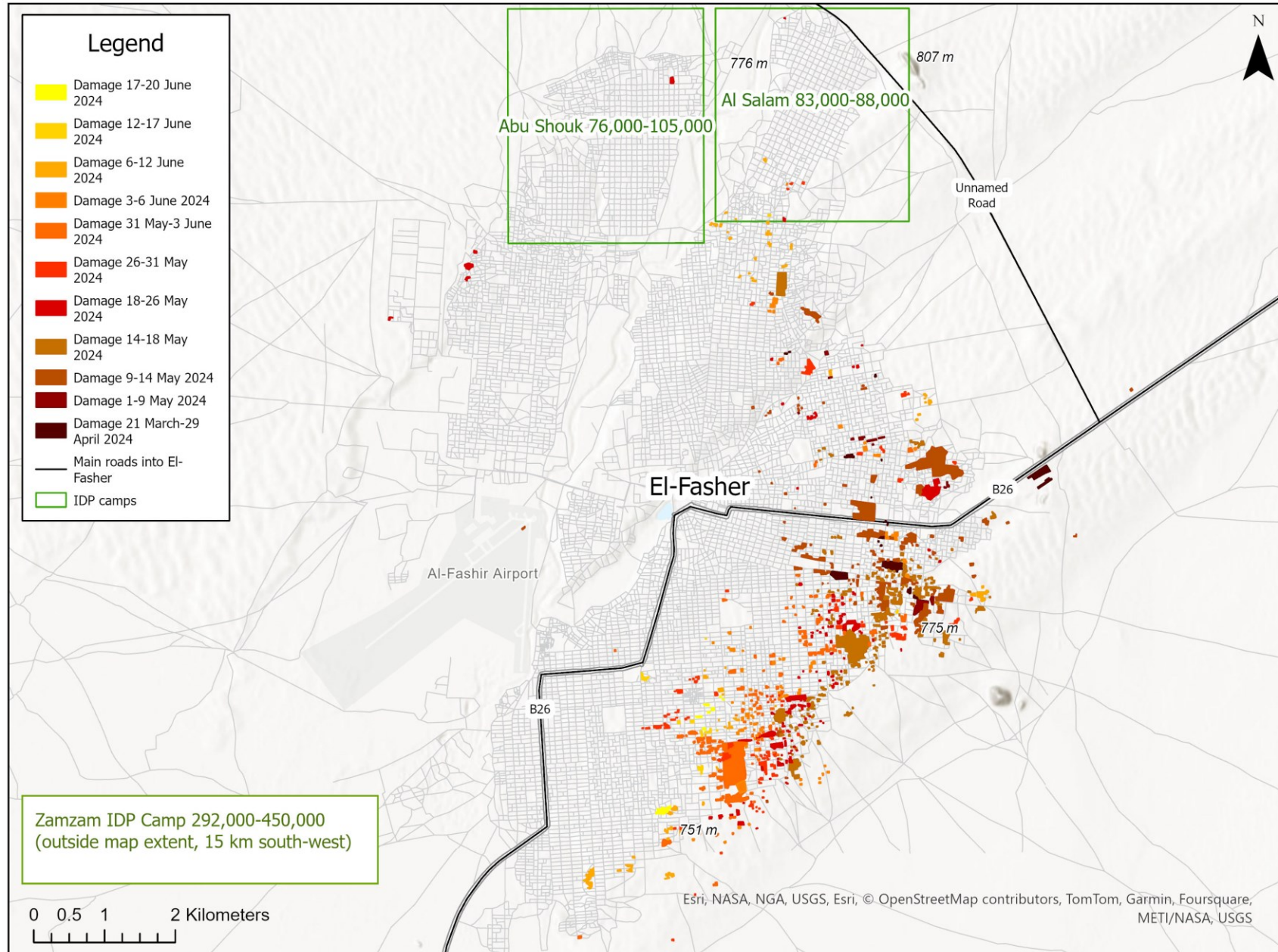


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17 June 2024 © 2024 Maxar, USG-Plus

Thermal scarring observed at El-Fasher between 21 March-20 June 2024



Active fire in Southern Neighborhood, El-Fasher

DAMAGE OBSERVED BETWEEN 19-20 JUNE 2024



19 June 2024 © 2024 Planet Labs

According to satellite imagery analysis, active fire and a smoke plume is observed in a south El-Fasher neighborhood on 20 June 2024. Thermal scarring has previously been observed in the same area.



20 June 2024 © 2024 Planet Labs

Thermal scarring and removal of temporary structures in El-Fasher

THERMAL SCARRING OBSERVED BETWEEN 13-18 JUNE 2024

According to satellite imagery analysis, thermal scarring and the removal of temporary structures are observed in south El-Fasher on 20 June 2024. The temporary structures are likely consistent with IDP tents. The thermal scarring is within a 200 meters radius of where RSF Commander Ali Yaqoub Gibril was allegedly killed near the B-26.



13 June 2024 © Maxar, USG-Plus



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