

# **Damage to Market and Burial Activity in Abu Shouk IDP Camp**

7 March 2025

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

© 2025 Humanitarian Research Lab at Yale School of Public Health. Imagery © 2025 Maxar, USG-Plus; © 2025 Planet Labs, USG-Plus; © 2025 Maxar Technologies.

Maps utilize data sources from: Esri, HERE, NASA, NGA, USGS, Esri, © OpenStreetMap contributors, TomTom, Garmin, Foursquare, METI/NASA, USGS

This report was independently produced by the Yale School of Public Health's Humanitarian Research Lab with the support of the Avaaz Foundation. Learn more at <https://medicine.yale.edu/lab/khoshnood/> and <https://avaaz.org>.

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.

Citation | Caitlin N. Howarth, Kaveh Khoshnood, Nathaniel A. Raymond et al. "Damage to Market and Burial Activity in Abu Shouk IDP Camp." 07 March 2025. Humanitarian Research Lab at Yale School of Public Health: New Haven.

## I. Key Findings

The Yale School of Public Health's Humanitarian Research Lab (HRL) corroborates damage to the Naivasha Market and other areas of Abu Shouk Internally Displaced Persons (IDP) Camp of El-Fasher through analysis of satellite imagery collected between 27 February and 07 March 2025. Abu Shouk IDP Camp is in range of a fifth likely Rapid Support Forces (RSF) heavy artillery piece consistent with an AH4 howitzer newly identified in satellite imagery analysis and pointed toward the camp. Local news media and aid organizations reported that RSF shelling of Naivasha market and other areas of the IDP Camp on 2, 4, and 5 March 2025 resulted in over 80 casualties, including the deaths of at least twelve people.<sup>1</sup>

Yale HRL has identified a fifth heavy artillery piece consistent with an AH4 howitzer in RSF territory northeast of El-Fasher with the gun barrel pointing toward Abu Shouk IDP camp. In its current position, the AH4's range includes Abu Shouk IDP Camp and may extend as far west as Shagara Humaida and Shagara Musa. The fifth artillery piece consistent with an AH4 was first visible in satellite imagery on 20 September 2024, preceding the four other AH4s, which were first visible in satellite imagery in November 2024. All five artillery pieces consistent with AH4s have been visible in satellite imagery concurrently.

Both satellite imagery analysis and local news reporting indicate that the damage in Abu Shouk IDP Camp was likely due to artillery or mortar shelling, and the range and vector of the AH4 is consistent with possible bombardment of Abu Shouk IDP Camp. Yale HRL cannot confirm that the damage identified in this report is due to the AH4, but the artillery piece may have been used in other attacks on Abu Shouk IDP Camp while it has been in its current position.

Yale HRL also identifies ongoing burial activity at two cemeteries in Abu Shouk IDP Camp following the attacks. Analysis of satellite imagery on 4 and 6 March 2025 shows the presence of burials in progress at the Al-Rahma cemetery in the southern sector of Abu Shouk IDP Camp. Analysis of satellite imagery on 4 and 7 March 2025 shows the presence of an additional ongoing burial at the Naivasha-Maqabir cemetery in the northern sector of Abu Shouk IDP Camp.

Abu Shouk IDP Camp has faced famine conditions since October 2024, and attacks on markets and other critical infrastructure will almost certainly exacerbate extreme food insecurity.<sup>2</sup> *Radio Dabanga* reported that Naivasha market is the only active market in Abu Shouk IDP Camp and that during the 2 March attack, the market was busy with people buying supplies for Ramadan.<sup>3</sup> Some people injured in these attacks have been transported to Saudi Hospital, which is the only operational hospital remaining in El Fasher and has been attacked repeatedly.<sup>4</sup> El Fasher faces a severe shortage of medical supplies and other humanitarian aid due to RSF's siege of the city.<sup>5</sup>

## II. Methodology

Yale HRL utilizes data fusion methodologies of open source and remote sensing data analysis. Yale HRL produced this report through the cross-corroboration of open source data, including social media, local news reporting, multimedia, and other reports, and remote sensing data, including satellite imagery and thermal sensor data. Researchers analyzed open source data across social media, news reports, and other publicly available sources to identify, chrono- and geolocate, and verify incidents. Analysts assess the credibility and reliability of open source data based on a source's level of detail, past credibility, and the corroboration of other independent sources. Remote sensing and satellite imagery analysis relies on multi-temporal change detection, which involves the comparison of two or more satellite images of the same area captured at different times to detect differences in coloration, visual properties, and presence, absence, or positional change of objects across the images.

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 was then verified and informed through open source analysis by Yale HRL's analysts with relevant cultural and linguistic skills.

## 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. Image resolution level can also limit the analyst's ability to perceive the full extent of damage present.

---

<sup>1</sup> Radio Dabanga, "مقتل 6 مدنيين في قصف مدفعي على معسكر أبوشوك وسوق نيفاشا بالفاتشر" March 2, 2025, <http://dabangasudan.org/ar/all-news/article/%D9%85%D9%82%D8%AA%D9%84-%D9%85%D8%AF%D9%86%D9%8A%D9%8A%D9%86-%D9%81%D9%8A-%D9%82%D8%B5%D9%81-%D9%85%D8%AF%D9%81%D8%B9%D9%8A-%D8%B9%D9%84%D9%89-%D9%85%D8%B9%D8%B3%D9%83%D8%B1-%D8%A3%D8%A8%D9%88%D8%B4>, archived at <https://perma.cc/9X38-RV75>; Darfur24, "قتلى وجرحى في قصف مدفعي استهدف مخيم أبو شوك قرب الفاتشر" March 2, 2025, <https://www.darfur24.com/2025/03/02/%D9%82%D8%AA%D9%84%D9%89-%D9%88%D8%AC%D8%B1%D8%AD%D9%89-%D9%81%D9%8A-%D9%82%D8%B5%D9%81-%D9%85%D8%AF%D9%81%D8%B9%D9%8A-%D8%A7%D8%B3%D8%AA%D9%87%D8%AF%D9%81-%D9%85%D8%AE%D9%8A%D9%85-%D8%A3%D8%A8%D9%88/>, archived at <https://perma.cc/73W8-AGJN>; Mohamed Haj Nour and Sudan War Monitor, "تجدد قصف معسكر أبو شوك للنازحين بواسطة الدعم السريع" March 2, 2025, <https://sudanwarmonitor.com/p/5a2>, archived at <https://perma.cc/3ZKF-SCYL>; Sudan Tribune, "قصف الدعم السريع على مخيم نازحين بدارفور" March 2, 2025, <https://www.sudantribune.com/2025/03/02/%D9%82%D8%AA%D9%84%D9%89-%D9%88%D8%AC%D8%B1%D8%AD%D9%89-%D9%81%D9%8A-%D9%82%D8%B5%D9%81-%D9%85%D8%AF%D9%81%D8%B9%D9%8A-%D8%A7%D8%B3%D8%AA%D9%87%D8%AF%D9%81-%D9%85%D8%AE%D9%8A%D9%85-%D8%A3%D8%A8%D9%88/>

---

قتلى وجرحى جراء تجدد القصف المدفعي على معسكر ابوشوك “بالتاثير” March 4, 2025, <https://sudantribune.net/article298127/>, archived at <https://perma.cc/YRK8-AKHR>; Radio Dabanga, “قتلى وجرحى جراء تجدد القصف المدفعي على معسكر ابوشوك “بالتاثير” March 5, 2025, <https://www.dabangasudan.org/ar/all-news/article/%D9%82%D8%AA%D9%84%D9%89-%D9%88%D8%AC%D8%B1%D8%AD%D9%89-%D8%AC%D8%B1%D8%A7%D8%A1-%D8%AA%D8%AC%D8%AF%D8%AF-%D8%A7%D9%84%D9%82%D8%B5%D9%81-%D8%A7%D9%84%D9%85%D8%AF%D9%81%D8%B9%D9%8A-%D8%B9%D9%84%D9%89>, archived at <https://perma.cc/C92W-PX8Q>; Darfur24, “قتلى وجرحى في قصف مدفعي على مخيم “أبو شوك” شمال دارفور” March 5, 2025, <https://www.darfur24.com/2025/03/05/%D9%82%D8%AA%D9%84%D9%89-%D9%88%D8%AC%D8%B1%D8%AD%D9%89-%D9%81%D9%8A-%D9%82%D8%B5%D9%81-%D9%85%D8%AF%D9%81%D8%B9%D9%8A-%D8%B9%D9%84%D9%89-%D9%85%D8%AE%D9%8A%D9%85-%D8%A3%D8%A8%D9%88-%D8%B4%D9%88/>, archived at <https://perma.cc/8AV3-6VKN>

<sup>2</sup> Integrated Food Security Phase Classification, “Sudan: Acute Food Insecurity Snapshot October 2024 - May 2025,” December 24, 2024, [https://www.ipcinfo.org/fileadmin/user\\_upload/ipcinfo/docs/IPC\\_Sudan\\_Acute\\_Food\\_Insecurity\\_Oct2024\\_May2025\\_Snapshot.pdf](https://www.ipcinfo.org/fileadmin/user_upload/ipcinfo/docs/IPC_Sudan_Acute_Food_Insecurity_Oct2024_May2025_Snapshot.pdf), archived at <https://perma.cc/9EKC-Q4E8>; Farouk Chothia, “Sudan slides deeper into famine, experts say,” *BBC News*, December 24, 2024, <https://www.bbc.com/news/articles/cz0rp93vdnzo>, archived at <https://perma.cc/PNU9-CAW9>

<sup>3</sup> Radio Dabanga, “مقتل 6 مدنيين في قصف مدفعي على معسكر أبوشوك وسوق نيفاشا بالتاثير” March 2, 2025, <http://dabangasudan.org/ar/all-news/article/%D9%85%D9%82%D8%AA%D9%84-%D9%85%D8%AF%D9%86%D9%8A%D9%8A%D9%86-%D9%81%D9%8A-%D9%82%D8%B5%D9%81-%D9%85%D8%AF%D9%81%D8%B9%D9%8A-%D8%B9%D9%84%D9%89-%D9%85%D8%B9%D8%B3%D9%83%D8%B1-%D8%A3%D8%A8%D9%88%D8%B4>, archived at <https://perma.cc/9X38-RV75>

<sup>4</sup> Darfur24, “قتلى وجرحى في قصف مدفعي على مخيم “أبو شوك” شمال دارفور” March 5, 2025, <https://www.darfur24.com/2025/03/05/%D9%82%D8%AA%D9%84%D9%89-%D9%88%D8%AC%D8%B1%D8%AD%D9%89-%D9%81%D9%8A-%D9%82%D8%B5%D9%81-%D9%85%D8%AF%D9%81%D8%B9%D9%8A-%D8%B9%D9%84%D9%89-%D9%85%D8%AE%D9%8A%D9%85-%D8%A3%D8%A8%D9%88-%D8%B4%D9%88/>, archived at <https://perma.cc/8AV3-6VKN>; Radio Dabanga, “تقرير: نزوح نحو 473 الف شخص من الفاشر منذ أبريل “الماضي” February 4, 2025, <https://www.dabangasudan.org/ar/all-news/article/%d8%aa%d9%82%d8%b1%d9%8a%d8%b1-%d9%86%d8%b2%d9%88%d8%ad-%d9%86%d8%ad%d9%88-473-%d8%a7%d9%84%d9%81-%d8%b4%d8%ae%d8%b5-%d9%85%d9%86-%d8%a7%d9%84%d9%81%d8%a7%d8%b4%d8%b1-%d9%85%d9%86%d8%b0-%d8%a3%d8%a8>, archived at <https://perma.cc/48VY-XCEC>; Médecins Sans Frontières, “Sudan: Attacks on El Fasher hospitals and supply blockade put lives at risk,” August 1, 2024, <https://www.doctorswithoutborders.org/latest/sudan-attacks-el-fasher-hospitals-and-supply-blockade-put-lives-risk>, archived at <https://perma.cc/E75G-JXZG>

<sup>5</sup> Sudan Tribune, “North Darfur clashes leave 13,000 killed or wounded in a year,” March 5, 2025, <https://sudantribune.com/article298224/>, archived locally; UN OCHA, “Humanitarian Crisis in Sudan: Statement by the Humanitarian Coordination Forum (HCF),” March 4, 2025, <https://reliefweb.int/report/sudan/humanitarian-crisis-sudan-statement-humanitarian-coordination-forum-hcf>, archived at <https://perma.cc/LYV9-RA8W>



# Naivasha Market, Abu Shouk IDP Camp, El-Fasher

CONFLICT-RELATED DAMAGE  
OBSERVED BETWEEN 27 FEBRUARY-04  
MARCH 2025



27 February 2025 © 2025 Maxar Technologies  
Image enhanced with MGP Pro HD image enhancement

Analysis of satellite imagery collected between 27 February and 04 March 2025 shows damage from likely shelling to the roofs of structures at the Naivasha Market in the Abu Shouk IDP Camp of El-Fasher.



04 March 2025 © 2025 Maxar Technologies  
Image enhanced with MGP Pro HD image enhancement



# Navaisha Market, Abu Shouk IDP Camp, El-Fasher

CONFLICT-RELATED DAMAGE OBSERVED  
BETWEEN 04-07 MARCH 2025

Analysis of satellite imagery collected between 04 and 07 March 2025 shows damage from likely shelling to the roof of a structure at the Navaisha Market in the Abu Shouk IDP Camp of El-Fasher.



04 March 2025 © 2025 Maxar Technologies  
Image enhanced with MGP Pro HD image enhancement



07 March 2025 © 2025 Maxar Technologies  
Image enhanced with MGP Pro HD image enhancement



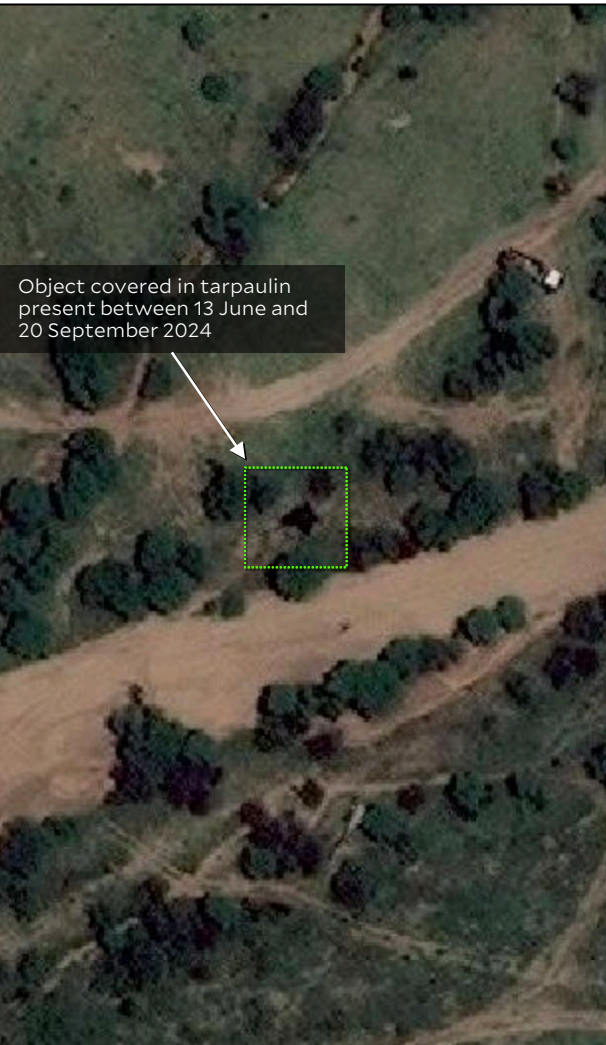
# Northeastern El-Fasher

## HEAVY ARTILLERY OBSERVED BETWEEN 20 SEPTEMBER 2024-07 MARCH 2025

Analysis of satellite imagery collected over a location approximately 18 km northeast of El-Fasher shows an object measuring approximately 10m in length covered in a tarpaulin first appearing between 13 June and 20 September 2024.

Between 08 January and 16 February 2025, the cover has been removed, revealing an object consistent with the AH4 howitzer, its barrel pointing southwest towards El-Fasher. Four other AH4 howitzers were previously identified in this region.

The AH4 remains in this position as of 07 March 2025.



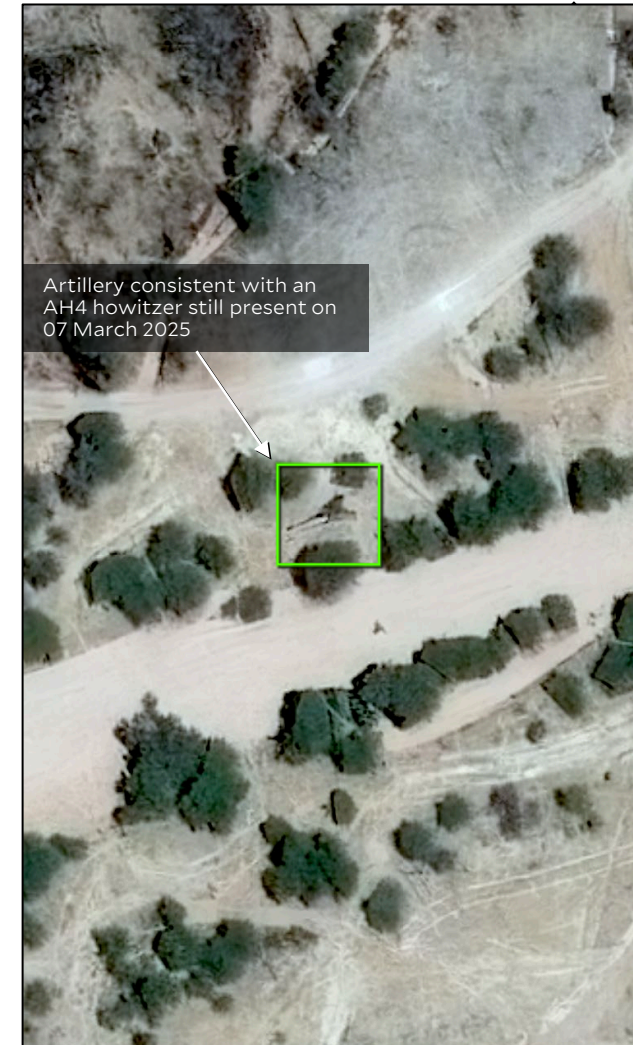
20 September 2024 © 2024 Maxar, USG-Plus



08 January 2025 © 2025 Maxar, USG-Plus



16 February 2025 © 2025 Maxar, USG-Plus



07 March 2025 © 2025 Maxar Technologies  
Image enhanced with MGP Pro HD image enhancement



# Al-Rahma Cemetery, Abu Shouk IDP Camp, El-Fasher

ONGOING BURIAL ACTIVITY OBSERVED BETWEEN 01-04 MARCH 2025

Analysis of satellite imagery collected between 01 and 04 March of the Abu Shouk IDP Camp in El-Fasher shows the presence of an ongoing burial at the Al-Rahma cemetery located in the southern sector of Abu Shouk IDP Camp.



01 March 2025 © 2025 Maxar, USG-Plus



04 March 2025 © 2025 Maxar, USG-Plus



# Al-Rahma Cemetery, Abu Shouk IDP Camp, El-Fasher

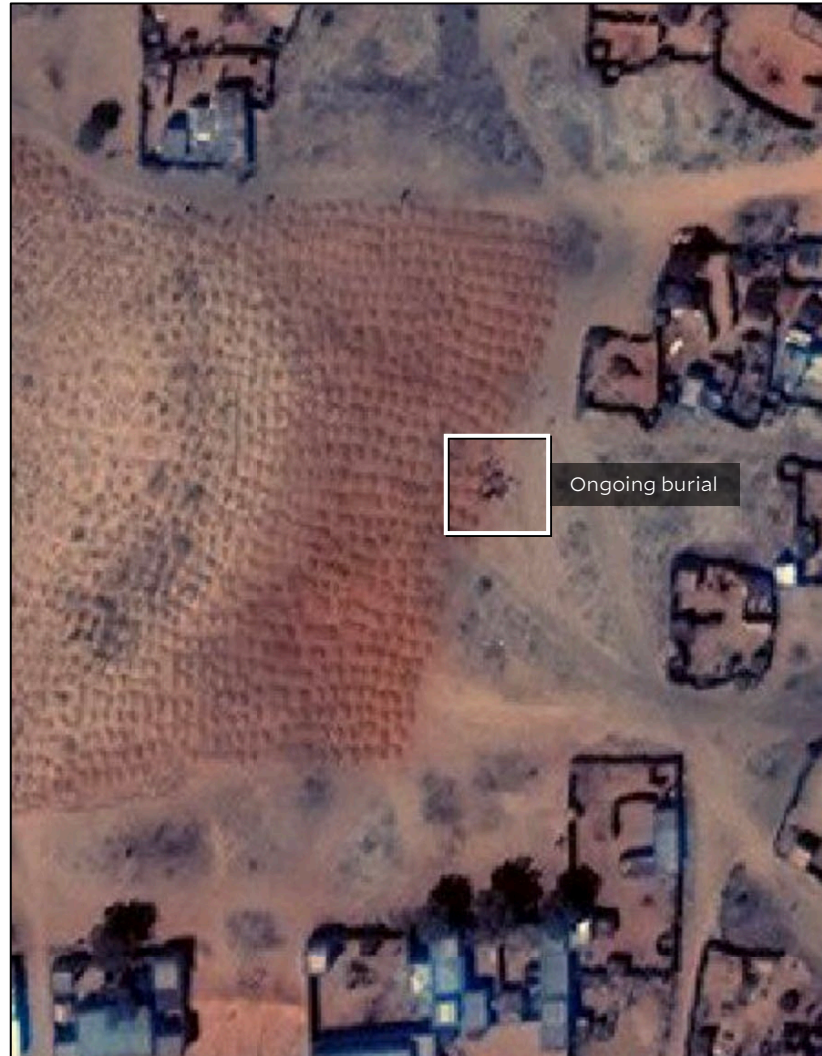
ONGOING BURIAL ACTIVITY OBSERVED BETWEEN 03-04 & 06 MARCH 2025

Analysis of satellite imagery collected from 03 March 2025 to 04 March 2025 Abu Shouk IDP Camp in El-Fasher shows the presence of an ongoing burial at the Al-Rahma cemetery.

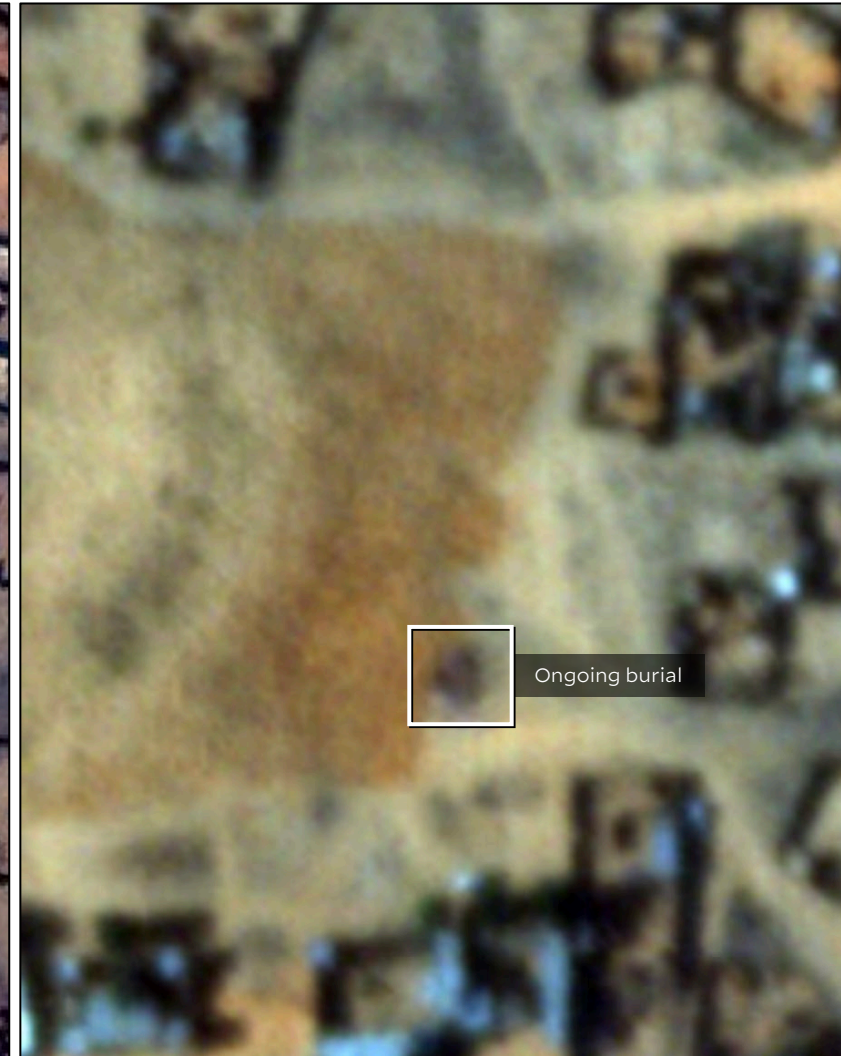
Imagery collected on 06 March 2025 shows that, 14m south of the previously identified burial location, a discoloration consistent with previously observed burial activity at the cemetery is observed.



03 March 2025 © 2025 Planet Labs, USG-Plus



04 March 2025 © 2025 Maxar, USG Plus



06 March 2025 © 2025 Planet Labs, USG-Plus



# Naivasha-Maqabir Cemetery, Abu Shouk IDP Camp, El-Fasher

ONGOING BURIAL ACTIVITY OBSERVED  
BETWEEN 04-07 MARCH 2025

Analysis of satellite imagery collected between 04 and 07 March of the Abu Shouk IDP Camp in El-Fasher shows an ongoing burial, with the presence of a white object placed in a newly excavated hole, at the Naivasha-Maqabir cemetery located in the northern sector of the camp.



04 March 2025 © 2025 Maxar, USG-Plus



07 March 2025 © 2025 Maxar, USG-Plus

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

<https://medicine.yale.edu/lab/khoshnood/>