

**Human Security Emergency: Large-Scale
Displacement of Civilians on Foot and Animal-
Drawn Carts from Zamzam IDP Camp**

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Yale SCHOOL OF PUBLIC HEALTH
Humanitarian Research Lab

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The Yale School of Public Health's Humanitarian Research Lab (HRL) observes the large-scale displacement of at least 1,100 people from Zamzam Internally Displaced Persons (IDP) Camp. In satellite imagery from 17 April 2025, civilians appear to be fleeing toward both Tawilah, west of Zamzam IDP Camp, and toward communities in Dar As Salaam locality, southeast of Zamzam. Only 26 vehicles are observed; the overall majority appear to be people on foot and in animal-drawn carts. These findings corroborate reports from news media and humanitarian organizations of hundreds of thousands of people being displaced from Zamzam IDP Camp.¹ This displacement endangers the lives of those who survived RSF's ground invasion, systematic arson attacks, and capture of Zamzam IDP Camp. This report documents one moment in time – the number displaced is certainly significantly higher.

RSF's campaign of mass displacement under deadly conditions functions as ethnic cleansing. Before RSF's ground invasion, Zamzam IDP camp was the largest IDP camp in Sudan and had served for approximately 20 years as the home for predominantly Zaghawa and Fur survivors of the Darfur Genocide from the 2000s.² The inhabitants of Zamzam IDP Camp have been surviving famine conditions (IPC-5) since June 2024.³ The direct distance between Zamzam IDP Camp and Tawilah is approximately 40km (24.85 miles), but the route reportedly stretches 60km (37.28 miles) — a physically taxing journey on foot, particularly for a population under starvation conditions.⁴ There are widespread reports that people are dying while fleeing Zamzam IDP Camp due to starvation and exposure.⁵

I. Key Findings

Yale HRL identifies a large convoy of displaced people from Zamzam IDP Camp moving to Tawilah, North Darfur. Over 670 objects consistent with both people on foot and animal-pulled carts are visible in satellite imagery on approximately 8.5 kilometers of roads heading from Zamzam IDP Camp to Tawilah, North Darfur on 17 April 2025. There are approximately 450 objects consistent with people on foot and approximately 220 likely animal-pulled carts. Video footage of people displaced from Zamzam indicates that there are likely multiple people per cart.⁶ Additionally, there are approximately 26 vehicles identified on these roads.

Yale HRL identifies an additional large convoy of displaced people moving southeast from Zamzam to communities in Dar As Salaam locality. Analysis of satellite imagery from 17 April 2025 shows 486 objects consistent with both people on foot and carts on approximately 3.75 km of roads heading southeast from Zamzam IDP Camp.

II. Human Security

This displacement follows RSF's ground invasion and systematic arson attacks on Zamzam IDP camp, starting on 11 April 2025. By 16 April 2025, RSF had destroyed over 1.7 square kilometers of Zamzam IDP camp (an area greater than 24 FIFA football pitches), executed at least 11 humanitarian aid workers, and targeted humanitarian and

healthcare facilities.⁷ The United Nations Security Council stated that over 400 civilians were reportedly killed; the true number of people killed or who have died due to these attacks is expected to far exceed 400.⁸

Since attacking and capturing Zamzam IDP Camp, RSF has reportedly prevented people from escaping Zamzam IDP camp based on ethnicity and gender. Local and international news organizations have alleged that RSF has conducted extrajudicial targeted killings of men and boys and prevented men and boys from leaving Zamzam IDP Camp, including based on skin color.⁹ RSF has also reportedly conducted extrajudicial killings of women and girls, committed conflict related sexual violence, and kidnapped and detained at least 58 women and girls in Zamzam IDP Camp.¹⁰ Credible ground reports allege that RSF may be selling women and girls into sexual or domestic slavery. Elderly civilians have been reportedly targeted and killed.¹¹

III. 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. Image resolution level can also limit the analyst's ability to perceive the full extent of activity and displacement present.

¹ Médecins Sans Frontières, “Sudan: Desperation as hundreds of thousands flee Zamzam camp,” April 18, 2025, <https://www.doctorswithoutborders.org/latest/sudan-desperation-hundreds-thousands-flee-zamzam-camp>, archived at <https://perma.cc/8XWD-J7MS>; Nafisa Eltahir, Mohamed Jamal, Khalid Abdelaziz, Inaki Malvido, Aaron McNicholas, Milan Pavicic, Eleanor Whalley, and Andrew Heavens, “Survivors describe executions, arson in attack on Sudan’s Zamzam camp,” *Reuters*, April 19, 2025, <https://www.reuters.com/world/africa/survivors-describe-executions-arson-attack-sudans-zamzam-camp-2025-04-19/>, archived at <https://archive.ph/CV45s>; Kaamil Ahmed, “‘They were chanting as they killed people in their homes’: survivors describe attack on Sudan’s Zamzam camp” April 18, 2025, *The Guardian*, <https://www.theguardian.com/global-development/2025/apr/18/survivors-attack-sudan-zamzam-camp-rapid-support-forces-paramilitaries>, archived at <https://perma.cc/ZC6L-2TJY>; UN OCHA, “Sudan: Displacement from Zamzam camp, North Darfur State - Flash Update No. 01 (As of 15 April 2025),” *ReliefWeb*, April 15, 2025, <https://reliefweb.int/report/sudan/sudan-displacement-zamzam-camp-north-darfur-state-flash-update-no-01-15-april-2025>, archived at <https://perma.cc/T2ZG-DPLD>

² Emmanuel Akinwotu, “Sudan’s biggest refugee camp was already struck with famine. Now it’s being shelled,” *NPR*, December 21, 2024, <https://www.npr.org/2024/12/21/g-s1-39301/sudan-darfur-zamzam-camp-rsf-attack-famine>, archived at <https://perma.cc/B6B6-BR7W>

³ 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, archived at <https://perma.cc/9EKCQ4E8>

⁴ Darfur24, “حالات اغتصاب واختطاف وسط الفارات من الفاشر إلى طويلة” April 19, 2025, <https://www.darfur24.com/2025/04/19/%d8%ad%d8%a7%d9%84%d8%a7%d8%aa-%d8%a7%d8%ba%d8%aa%d8%b5%d8%a7%d8%a8-%d9%88%d8%a7%d8%ae%d8%aa%d8%b7%d8%a7%d9%81-%d9%88%d8%b3%d8%b7-%d8%a7%d9%84%d9%81%d8%a7%d8%b1%d8%a7%d8%aa-%d9%85%d9%86-%d8%a7%d9%84/>, archived at <https://perma.cc/W9C4-6YSW>

⁵ Kaamil Ahmed, “‘They were chanting as they killed people in their homes’: survivors describe attack on Sudan’s Zamzam camp” April 18, 2025, *The Guardian*, <https://www.theguardian.com/global-development/2025/apr/18/survivors-attack-sudan-zamzam-camp-rapid-support-forces-paramilitaries>, archived at <https://perma.cc/ZC6L-2TJY>; Sudan Tribune, “Deaths reported among displaced fleeing Sudan’s Zamzam camp after RSF takeover,” April 16, 2025, <https://sudantribune.com/article299855/>, archived at <https://archive.ph/PMFOj>; Sudanese American Physicians Association, “SUDAN: North Darfur Situation Update,” April 15, 2025, <https://sapa-usa.org/sudan-north-darfur-situation-update/>, archived at <https://perma.cc/5MBK-EW2Z>

⁶ BBC News Africa (@BBCAfrica), “Tens of thousands of Sudanese have fled after coordinated attacks,” X (formerly known as Twitter), April 16, 2025, <https://x.com/BBCAfrica/status/1912556122474508785>, archived at <https://perma.cc/WRZ5-PDKL>; Sudan Tribune (@SudanTribune_EN), “The leader of an armed group allied with the paramilitary RSF announced plans Saturday to evacuate over 100,000 families,” X (formerly known as Twitter), April 19, 2025, https://x.com/SudanTribune_EN/status/1913724117725139058, archived at <https://perma.cc/K2PW-XXF5>

⁷ Caitlin N. Howarth, Kaveh Khoshnood, Nathaniel A. Raymond et al. “Human Security Emergency: Ongoing RSF Arson Attacks and Force Swell in Zamzam IDP Camp” 16 April

2025. Humanitarian Research Lab at Yale School of Public Health: New Haven; <https://sapa-usa.org/sudan-north-darfur-situation-update/>, archived at <https://perma.cc/5MBK-EW2Z>; United Nations Security Council, “Security Council Press Statement on Sudan,” SC/16046, UN News, April 17, 2025, <https://press.un.org/en/2025/16046.doc.htm>, archived at <https://perma.cc/8R48-DRG4>

⁸ United Nations Security Council, “Security Council Press Statement on Sudan,” SC/16046, UN News, April 17, 2025, <https://press.un.org/en/2025/16046.doc.htm>, archived at <https://perma.cc/8R48-DRG4>

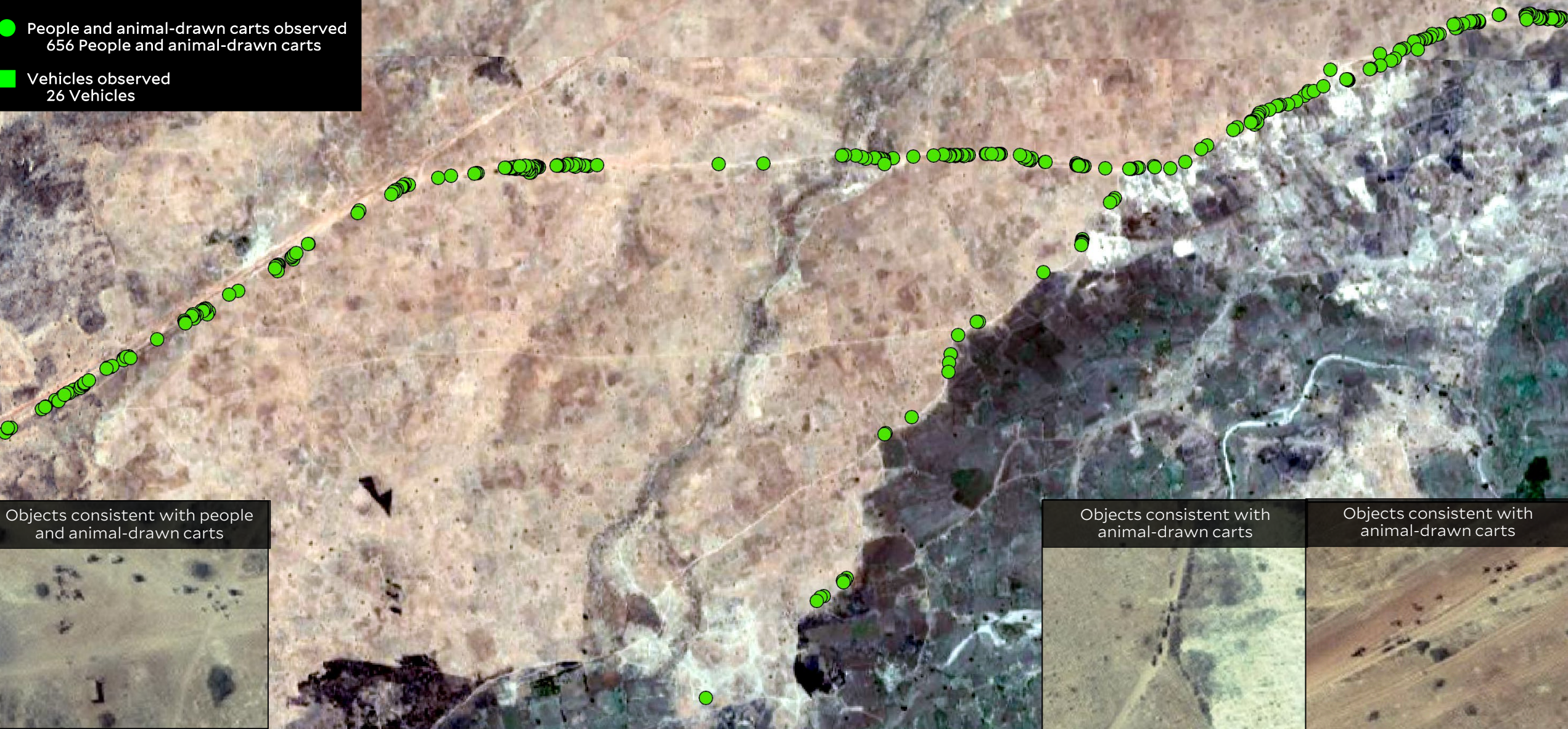
⁹ Sudan Tribune, “Deaths reported among displaced fleeing Sudan’s Zamzam camp after RSF takeover,” April 16, 2025, <https://sudantribune.com/article299855/>, archived at <https://archive.ph/PMFOj>; Kaamil Ahmed, “‘They were chanting as they killed people in their homes’: survivors describe attack on Sudan’s Zamzam camp” April 18, 2025, *The Guardian*, <https://www.theguardian.com/global-development/2025/apr/18/survivors-attack-sudan-zamzam-camp-rapid-support-forces-paramilitaries>, archived at <https://perma.cc/ZC6L-2TJY>; Nafisa Eltahir, Mohamed Jamal, Khalid Abdelaziz, Inaki Malvido, Aaron McNicholas, Milan Pavicic, Eleanor Whalley, and Andrew Heavens, “Survivors describe executions, arson in attack on Sudan’s Zamzam camp,” *Reuters*, April 19, 2025, <https://www.reuters.com/world/africa/survivors-describe-executions-arson-attack-sudans-zamzam-camp-2025-04-19/>, archived at <https://archive.ph/CV45s>

¹⁰ Emtithal Mahmoud, “The Darfur Genocide Never Ended,” *The New York Times*, April 20, 2025, <https://www.nytimes.com/2025/04/20/opinion/sudan-darfur-genocide.html>, archived at <https://archive.ph/BTsSq>

¹¹ Kaamil Ahmed, “‘They were chanting as they killed people in their homes’: survivors describe attack on Sudan’s Zamzam camp” April 18, 2025, *The Guardian*, <https://www.theguardian.com/global-development/2025/apr/18/survivors-attack-sudan-zamzam-camp-rapid-support-forces-paramilitaries>, archived at <https://perma.cc/ZC6L-2TJY>

Road from Zamzam to Tawilah
17 April 2025

Imagery collected on 17 April 2025 shows a convoy measuring approximately 6 km in length on a main road and comprised primarily of animal-drawn carts and people on foot. The convoy is joined by another convoy measuring approximately 2.5 km in length from a sideroad. Both convoys appear to be moving westward from Zamzam IDP Camp toward Tawilah.



Road from Zamzam Southeast into Dar As Salaam Locality
17 April 2025

● People and animal-drawn carts observed
486 people and animal-drawn carts

Imagery collected on 17 April 2025 shows a convoy measuring approximately 3.75 km in length and comprised primarily of animal-drawn carts and people on foot.



Objects consistent with animal drawn carts and people



Objects consistent with animal-drawn carts and people



Objects consistent with animal-drawn carts and people

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