Confirmation: Destruction of Aircraft at RSF-Held Nyala Airport

8 May 2025

Yale SCHOOL OF PUBLIC HEALTH
Humanitarian Research Lab

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I. Key Findings

The Yale School of Public Health's Humanitarian Research Lab (HRL) confirms the destruction of an aircraft at Rapid Support Forces (RSF)-held Nyala International Airport in satellite imagery from 5 and 6 May 2025. This corroborates reports that Sudan Armed Forces (SAF) destroyed an aircraft at Nyala airport on 2 May 2025. Yale HRL identifies debris and a large burn scar at the apron of the RSF-held Nyala Airport in satellite imagery. This burn scar was first visible in low-resolution imagery on 5 May 2025, and the burn scar and debris are observed in high-resolution imagery from 6 May 2025. The burn scar has a diameter of approximately 50 meters. A damaged vehicle is visible near the burn scar. Streaks leading from the burn scar on the tarmac show debris, which includes debris consistent with a wing from an airframe. Sudanese media and open sources claim that SAF targeted Nyala airport, possibly with a drone, on 2 May 2025 after a reported cargo plane landed the night before.¹ Local news organizations allege that RSF conducted widespread extrajudicial arrests of police officers, soldiers, and civilians in Nyala following the destruction of the plane.² Flights have reportedly been landing at RSF-held Nyala airport since 21 September 2024.³

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.

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² Sudan Tribune, " (الدعم السريع» تنفذ حملة تغتيش على الهواتف بجنوب دارفور» "May 7, 2025, https://sudantribune.net/article300605/, archived at https://sudantribune.net/article300605/, archived at https://perma.cc/FF3S-4S6F; Darfur24," "دارفور 24" May 4, 2025, https://www.darfur24.com/2025/05/04/%d8%af%d8%a7%d8%b1%d9%81%d9%88%d8%b1%d9%81%d9%81%d9%81%d9%88%d8%b124-%d8%aa%d9%83%d8%b4%d9%81-%d8%aa%d9%81%d8%a7%d8%b5%d9%8a%d9%84-%d8%a5%d8%b6%d8%a7%d9%81%d9%8a%d8%a9-%d8%b9%d9%86-%d8%a7%d9%84%d9%87%d8%ac%d9%88/d9%85-%d8%b9/, archived at https://perma.cc/EC3N-MCY8

¹ Radio Dabanga, "صور الأقمار الاصطناعية تكشف عن حريق في مبنى ملحق بمطار نيالا" May 4, 2025, https://www.dabangasudan.org/ar/all-

³ Caitlin N. Howarth, Kaveh Khoshnood, Nathaniel A. Raymond et al. "Six UAVs at RSF-held Nyala Airport." 25 April 2025. Humanitarian Research Lab at Yale School of Public Health: New Haven.

Nyala Airport

THERMAL SCARRING AND DEBRIS
OBSERVED BETWEEN 01-06 MAY 2025



Analysis of satellite imagery collected between 01 and 06 May 2025 of Nyala Airport shows the new presence of a burn scar, measuring approximately 1 km² in area, on the main apron of the airstrip. Streaks leading from the burn scar to the northern edge of the apron show that likely debris, including a wing from an aircraft, has been pulled from the apparent wreckage.

Additionally, an open-back cargo truck likely sustained damage as evident by thermal scarring visible at the rear of its chassis.

The thermal scarring is visible in analysis of low-resolution Sentinel-2 imagery collected on 05 May 2025, narrowing the timeframe of the event to between 01 and 05 May 2025.



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