



Rapid Site Report:

Odesa Art Museum, Ukraine

Overview

The Odesa Art Museum was damaged between 6 and 8 November 2023. Analysis conducted by the Smithsonian Cultural Rescue Initiative (SCRI), in collaboration with the Penn Cultural Heritage Center at the University of Pennsylvania Museum of Archaeology and Anthropology (PennCHC), the Cultural Heritage Monitoring Lab at the Virginia Museum of Natural History (CHML), and the Ukrainian Heritage Monitoring Lab (HeMo), confirmed this damage using available satellite imagery and ground photography. This review was undertaken after reports of damage in Odesa in November 2023.¹

Satellite Imagery

Analysis of commercially available satellite imagery (MAXAR and Airbus) enables researchers to identify the timing and extent of damage to a site and its surroundings. However, the scale of the damage done to the Odesa Art Museum and the limits of commercially available satellite imagery make it difficult to discern specific areas of damage to the building from satellite imagery alone. In imagery dated 1 October 2023 and 5 November 2023 [**Images 1 and 2**], the Odesa Art Museum shows no visible damage. In imagery dated 9 November 2023 and 10 November 2023 [**Images 3 and 4**, respectively] impact craters and debris are visible on the road and grounds directly in front of the museum, but direct damage to the museum building is not discernable. Imagery dated 10 November 2023 shows the same damage [**Image 5**].

Ground Photography

Ground photography taken by HeMo identified damage to the Odesa Art Museum. **Images 6, 7, and 8** document damage to the museum's external windows as well as missile debris and an impact crater on the museum grounds. **Images 9, 10, and 11** illustrate additional damage to the internal walls, ceiling, and skylights of the museum. Together, these photographs suggest that a nearby rocket impact caused internal damage to the museum building.

¹ Méheut, C. (2023). "Ukraine Accuses Russia of Deadly Strike on Civilian Ship at Black Sea Port," *New York Times*, 11 November. Available at: <https://www.nytimes.com/2023/11/08/world/europe/ukraine-russia-black-sea-ship.html> (Accessed: 19 March 2024).



Image 1.



Satellite image of the Odesa Art Museum (dated 1 October 2023) shows no visible damage. Scale: 20m. Arrow points to the museum building. Source: © 2024 MAXAR.



Image 2.



Satellite image of the Odesa Art Museum (dated 5 November 2023) shows no visible damage. Scale: 50m. Arrow points to the museum building. Source: Airbus SE, Image © Airbus.



Image 3.



Satellite image of the Odesa Art Museum (dated 9 November 2023). Debris and impact craters are visible in the road and grounds in front of the museum. Scale: 50m. Arrow points to the museum building. Source: Airbus SE, Image © Airbus.



Image 4.



Satellite image of the Odesa Art Museum (dated 10 November 2023). Debris and impact craters are visible in the road and grounds in front of the museum. Scale: 50m. Arrow points to the museum building. Source: Airbus SE, Image © Airbus.



Image 5.



Satellite image of the Odesa Art Museum (dated 10 November 2023). Debris and impact craters are visible in the road and grounds in front of the museum. Scale: 20m. Arrow points to the museum building. Source: © 2024 MAXAR.



Image 6.



Image of the facade of the Odesa Art Museum (taken 8 November 2023). The broken windows are covered with plywood. Source: Matvii Pohranychnyi, Ukrainian Heritage Monitoring Lab.



Image 7.



Image of the facade of the Odesa Art Museum (taken 11 August 2023). An impact crater is visible in front of the museum. Source: Matvii Pohranychnyi, Ukrainian Heritage Monitoring Lab.



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Image 8.



Image of the facade of the Odesa Art Museum (taken 8 November 2023). White square evidence markers on the ground indicate rocket debris found by the documentation team.
Source: Matvii Pohranychnyi, Ukrainian Heritage Monitoring Lab.



Image 9.



Image of an exhibition hall in the Odesa Art Museum (taken 8 November 2023). Damage to a skylight, the ceiling, and walls is visible. Source: Matvii Pohranychnyi, Ukrainian Heritage Monitoring Lab.



Image 10.



Image of an exhibition hall in the Odesa Art Museum (taken 8 November 2023). Plaster in the ceiling collapsed due to the blast wave. Source: Matvii Pohranychnyi, Ukrainian Heritage Monitoring Lab.



Image 11.



Image of an exhibition hall in the Odesa Art Museum (taken 8 November 2023). Plaster in the ceiling collapsed due to the blast wave. Cracks are visible on the wall. Source: Matvii Pohranychnyi, Ukrainian Heritage Monitoring Lab.



Satellite Image Metadata

Image #	Image Date	Segment ID/ Legacy ID	Company	Satellite	License	Accessed
1	01 Oct 2023 24:05 UTC	10200100E1B0DD 00	Maxar	WV01	Smithsonian NextView License	19 Mar 2024
2	05 Nov 2023 09:01 UTC	DS_PHR1B_20231 1050901454_FR1 _PX_E030N46_08 12_01164	Airbus	Pléiades	PennCHC OneAtlas License	13 Mar 2024
3	09 Nov 2023 09:21 UTC	DS_PHR1A_20231 1090921354_FR1 _PX_E030N46_09 12_00596	Airbus	Pléiades	PennCHC OneAtlas License	13 Mar 2024
4	10 Nov 2023 09:13 UTC	DS_PHR1B_20231 1100913473_FR1 _PX_E030N46_09 12_00635	Airbus	Pléiades	PennCHC OneAtlas License	13 Mar 2024
5	11 Nov 2023 09:24 UTC	10300100F16F21 00	Maxar	WV02	Smithsonian NextView License	19 Mar 2024

Citation

Hanson, K., Bender, T. J. P., Lawrence-Weilmann, J., Rozhko, V., Makar, R., Zadorozhna, M., Oleksii, A., Pohranychnyi, M., Frolova, Y., Gunter-Bassett, M., Welsh, W., Fitzgerald, K., Maher, A., Bassett, H., Muller, C. E., Kane, K. E., Daniels, B. I., and Wegener, C. (2024). "Rapid Site Report: Odesa Art Museum, Ukraine," Virginia Museum of Natural History, Cultural Heritage Monitoring Lab; Ukrainian Heritage Monitoring Laboratory; University of Pennsylvania Museum of Archaeology and Anthropology, Penn Cultural Heritage Center; and Smithsonian Institution, Smithsonian Cultural Rescue Initiative. DOI: 10.25573/data.25436347.