

CASE FILE 70 / 237UAP00607

237UAP00607

Radar/correlation-focused public UAP report; score 52

HIGH-VALUE UNRESOLVED

REPORT NO.	UAP-OM-70-237UAP00607	DISPOSITION	HIGH-VALUE UNRESOLVED
PRIMARY CASE	237UAP00607	GENERATED	2026-05-20 18:32 UTC
REPORT TIME	2024-02-04T11:11:00+00:00	OBSERVER	39.57672, -109.26713
SOURCE CASE IDS	237UAP00607		

Abstract

This case file evaluates a reported UAP sighting against the available orbital-object layer. No compact same-launch group fully identifies the file by itself. The final disposition is assigned under a normal-object favored standard, where ordinary aerospace/orbital explanations are preferred when they reasonably fit the report.

This is a standalone independent analysis prepared from public-source records and public orbital datasets. It is not an official government determination, classification marking, or agency-authored report.

1. Executive Summary

237UAP00607 was screened against historical public LEO catalog objects orbital elements at the extracted time and observer coordinate. The screen did not produce enough mundane evidence to close the case under the normal-object favored standard. Hard features retained for follow-up: radar/primary evidence.

1.1 Key Findings

- Source score 52 based on: radar/primary-return language, high-altitude report, UAP/UFO language.
- Report time used: 2024-02-04T11:11:00+00:00.
- External object layer used: public LEO catalog objects.
- Disposition standard: UNRESOLVED requires case-specific causal fit. Satellite density above the horizon is context only and cannot by itself resolve the report.
- Case-specific ordinary-object evidence: plausible ADS-B aircraft candidate N7901A B738 aaba81 at 89.5 km, azimuth 291.5 deg, elevation 7.52 deg, 5.01 min from report.
- Non-causal context / rejection screens: very dense orbital-object sky background; context only, not causation.
- Remaining hard features: radar/primary evidence.
- Objects above horizon: 1061; at/above 10 deg: 526.
- No compact same-launch/designator group survived the report threshold.
- No explicit Starlink/balloon wording was found in the source excerpt used for ranking.

1.2 Bottom Line

HIGH-VALUE UNRESOLVED: Hard report features remain after the normal-object screens, such as primary/radar evidence, multiple witnesses, footage references, or motion language that still conflicts with the available object layer.

2. Source Control

The source-control table identifies the public report records reviewed for this case and lists public access links where available. The table is included so this PDF remains interpretable when distributed by itself.

CASE ID	REPORT DATE FIELD	FACILITY / TITLE	TEXT EXTRACT	PUBLIC PDF LINK
237UAP00607	2/4/2024 4:11:00 AM (-07 MST)	SCX3053 UFO-UAP ACTIVITY 02-04-2024	text extract present	237UAP00607.pdf

3. Original Report Evidence

PRIMARY EXCERPT USED FOR MATCHING	Washington Operations Center Date: 2/4/2024 4:11:00 AM (-07 MST) Title: SCX3053 UFO-UAP ACTIVITY 02-04-2024 Latitude: 39.576718900000003 Latitude: -109.2671314 DESCRIPTION PRELIM INFO FROM FAA OPS: MYTON, UT/UFO-UAP ACTIVITY/0411M/DENVER ARTCC ADVISED SUN COUNTRY 3053, B738, PDX - AFW, REPORTED AN UNIDENTIFIED AERIAL PHENOMENON OFF THE LEFT SIDE WHILE SE BOUND AT FL410 60 SE MYTON VOR (MTU). THE UAP APPEARED TO BE 5 SEPARATE CRAFT WITH WHITE LIGHTS TRAVELING BETWEEN FL600 AND FL800. NO PRIMARY TARGETS OBSERVED ON RADAR. WOC 7-3333 HM/JE
REPORT TIME USED	2024-02-04T11:11:00+00:00
OBSERVER COORDINATE USED	39.57672, -109.26713
OBSERVER SOURCE BASIS	(public text extract 237UAP00607)

4. Methodology

- Spacetime extraction.** The report time and observer coordinate were extracted from the public text report and normalized to UTC. Aviation fixes/radials were resolved during earlier preprocessing where applicable.
- External object dataset.** The object layer used historical Space-Track/TLE-derived public LEO catalog objects element rows. The analytic mode for this case is historical public LEO catalog objects element propagation and same-launch/designator sky grouping.
- Propagation.** Orbital elements were propagated to the report minute and observer location. For launch-object checks, samples around the report minute were retained. For Starlink group checks, objects above the horizon were clustered by sky position and filtered for same-launch groupings.
- Comparison.** The output was compared against the report's count of lights, direction cue, motion language, altitude/radar language, and whether the file itself already suggested a satellite explanation.
- Causation standard.** Mere object presence above the horizon is treated as background context only. A normal-object disposition requires a case-specific causal fit, such as a named launch object, a compact same-launch trajectory group, or source language that directly supports that object class.
- Disposition assignment.** *Identified* means a specific normal object fits the report spacetime and the hard reported features do not materially conflict. *Normal-object favored* means a case-specific ordinary aerospace/orbital candidate exists, but it is not a full named identification. *Insufficient* means the file is too thin to carry high anomaly value. *High-value unresolved* is used when radar, video, rapid maneuver, or multi-witness features remain after reasonable normal-object checks.

5. External Object Evidence

5.1 Search Volume and Density

This table is a screening layer only. Objects above the horizon show background opportunity; they do not establish causation unless a specific object or compact trajectory group matches the reported behavior.

PUBLIC LEO CATALOG OBJECTS CATALOG IDS CONSIDERED	19608	HISTORICAL ELEMENT ROWS	19608
ABOVE HORIZON AT REPORT MINUTE	1061	AT/ABOVE 10 DEG	526
LARGEST SAME-SKY CLUSTER	526		

No compact same-launch/designator group survived the report threshold. In this condition, satellite density remains context only and cannot by itself resolve a report with hard features.

5.2 Same-Launch / Same-Designator Candidate Groups

#	LAUNCH DATE	COUNT	AZIMUTH SPAN	ELEVATION SPAN	MOTION LABELS	MEMBERS
No same-launch group identified.						

5.3 Primary Group Members

OBJECT	NORAD	LAUNCH	AZ	EL	RANGE KM	APPARENT MOTION	ELEMENT AGE H
No members available.							

5.4 Bright-Sky Context: Top public LEO catalog objects Objects by Elevation

OBJECT	AZ	EL	RANGE KM	APPARENT MOTION	LAUNCH DATE
NORAD 57664	70.56	82.19	516.37	westward, setting	23124B
NORAD 23488	251.91	80.35	2230.08	westward, setting	94085L
NORAD 53896	230.56	78.7	551.98	eastward, setting	22119L
NORAD 49459	146.08	75.35	558.89	westward, setting	21104BD
NORAD 1572	121.44	75.08	1493.18	eastward, setting	65070C
NORAD 47775	94.09	73.5	571.56	eastward, setting	21017BF
NORAD 45427	32.17	73.01	1269.45	westward, setting	20020D
NORAD 23548	96.62	72.35	763.84	eastward, setting	95017D
NORAD 57818	206.66	71.2	590.51	westward, setting	23138L
NORAD 26504	139.09	70.87	950.13	eastward, setting	81021F
NORAD 38664	7.18	70.5	1239.76	westward, setting	12029F
NORAD 15951	251.32	68.76	990.18	eastward, setting	85066E

5.5 Largest Sky Clusters

#	COUNT	AZIMUTH SPAN	ELEVATION SPAN	MOTION LABELS
1	526	0.23-359.95 deg	10.03-82.19 deg	eastward, level, eastward, rising, eastward, setting, nearly fixed azimuth, rising, westward, level, westward, rising, westward, setting

5.6 Space-Track SATCAT Enrichment

Space-Track SATCAT metadata was pulled as a cached subset for NORAD catalog IDs appearing in this packet's evidence tables. This section adds owner/type/status context to the propagated object candidates.

PACKET SATCAT SUBSET ROWS	5370	FETCHED	2026-05-19T01:19:50+00:00
THIS CASE NORAD IDS CHECKED	30	SATCAT ROWS MATCHED	30
TOP OWNERS	US: 16, CIS: 10, PRC: 2, UK: 2		
OBJECT TYPES	PAYLOAD: 16, DEBRIS: 13, ROCKET BODY: 1		

5.7 Space-Track Metadata for Top Propagated Objects

NORAD	OBJECT NAME	TYPE	OWNER	LAUNCH DATE	DECAY DATE
57664	STARLINK-30302	PAYLOAD	US	2023-08-22	2025-02-27
23488	SL-19 DEB	DEBRIS	CIS	1994-12-26	n/a
53896	STARLINK-5037	PAYLOAD	US	2022-09-24	n/a
49459	STARLINK-3141	PAYLOAD	US	2021-11-13	n/a
1572	COSMOS 82	PAYLOAD	CIS	1965-09-03	n/a
47775	STARLINK-2198	PAYLOAD	US	2021-03-04	2025-01-20
45427	ONEWEB-0090	PAYLOAD	UK	2020-03-21	n/a
23548	PEGASUS R/B	ROCKET BODY	US	1995-04-03	n/a
57818	STARLINK-30401	PAYLOAD	US	2023-09-09	n/a
26504	COSMOS 1249 COOLANT	DEBRIS	CIS	1981-03-05	n/a
38664	CZ-4C DEB	DEBRIS	PRC	2012-05-29	n/a
15951	SCOUT G-1 DEB	DEBRIS	US	1985-08-03	n/a

5.9 NASA / NOAA / ADS-B Expansion Layer

NASA POWER/Horizons/DONKI batch context had not yet been written for this case at packet build time.

5.11 Free Source Availability and Remaining Work

LAYER	STATUS	CASE-SPECIFIC NOTE
ADSB.LOL HISTORICAL RELEASE LISTING	screened/present	planes-readsb-staging-0 1500.0 MiB; planes-readsb-prod-0 1494.0 MiB
ADSB TRACKS DOWNLOADED	not yet exhausted	Requires targeted extraction from large daily history archives before claiming aircraft exhaustion.
NOAA GOES IMAGERY	not yet exhausted	Needed for cloud/lightning visual context.
NOAA GOES ABI/GLM MANIFEST	screened/present	Public S3 object availability for the report hour.
NOAA NEXRAD WEATHER RADAR	not yet exhausted	Weather radar only; not ATC radar.
NOAA IGRA RADIOSONDE	screened/present	Needed for balloon drift plausibility.
ASOS/METAR WEATHER OBSERVATIONS	screened/present	Nearest station surface observations around report time.

- ADSB.lol historical: extract aircraft traces from adsblol/globe_history_2024 for 2024-02-04, then filter +/-60 min and 250 nmi around 39.5767,-109.2671.
- NASA POWER/Horizons/DONKI: batch context for 237UAP00607 at 2024-02-04T11:11:00+00:00.
- NOAA GOES: pull nearest ABI/GLM products for the UTC hour and render cloud/lightning map.
- NOAA NEXRAD: select nearest radar stations and render Level-II/III weather radar sweep around event time.
- NOAA IGRA: find nearest radiosonde station launches bracketing the event and model wind drift for balloon-like descriptions.
- Space-Track gp_history/decay: fetch exact historical element rows and decay/reentry status for top candidate NORAD IDs.

5.12 Weather, Imagery, and Balloon Query Plan

This plan identifies the concrete free sources needed for the next case-specific weather and balloon checks. These are not treated as completed exclusions until the data are downloaded and plotted.

GOES SATELLITE	GOES18
GOES ABI PREFIX	https://noaa-goes18.s3.amazonaws.com/ABI-L2-CMIPF/2024/035/11/
GOES GLM LIGHTNING PREFIX	https://noaa-goes18.s3.amazonaws.com/GLM-L2-LCFA/2024/035/11/

5.13 Nearest Weather-Airport Candidates

STATION	NAME	DISTANCE KM	COORDINATE
KGJT	Grand Junction Regional Airport	80.80	39.13, -108.53
KVEL	Vernal Regional Airport	97.80	40.44, -109.51
KCNY	Canyonlands Regional Airport	100.60	38.76, -109.75
KRIL	Garfield County Regional Airport	132.20	39.53, -107.73
KMTJ	Montrose Regional Airport	167.70	38.51, -107.89

- KGJT: [IEM ASOS/METAR daily CSV query](#)
- KVEL: [IEM ASOS/METAR daily CSV query](#)
- KCNY: [IEM ASOS/METAR daily CSV query](#)

5.14 Nearest Radiosonde Stations

STATION	NAME	DISTANCE KM	COORDINATE
USM00072476	GRAND JUNCTION/WALKER FIELD; C	81.60	39.12, -108.53
USM00072572	SALT LAKE CITY/INTNL UT.	264.20	40.77, -111.96
USM00074003	DUGWAY PRVGR	319.60	40.17, -112.93
USM00072672	RIVERTON; WY.	393.40	43.06, -108.48
USM00072376	FLAGSTAFF; AZ	533.30	35.23, -111.82

5.15 ASOS/METAR Surface Weather Observations

surface visibility ranged 10-10 statute miles; no precipitation was reported in the retained observations; low/broken/overcast cloud layers were present in at least one observation. Surface ASOS/METAR observations describe airport-level weather and visibility; they do not by themselves prove conditions at the sighting altitude or line of sight.

STATION	DISTANCE KM	NEAREST OBS UTC	VIS SM	SKY	WIND DEG/KT	METAR
KGJT	80.80	2024-02-04T10:53:00 +00:00	10.00	OVC07000, M, M, M	30.00 / 4.00	KGJT 041053Z AUTO 03004KT 10SM OVC070 00/ M04 A2996 RMK AO2 SLP136 T00001044
KVEL	97.80	2024-02-04T10:53:00 +00:00	10.00	CLR, M, M, M	40.00 / 4.00	KVEL 041053Z AUTO 04004KT 10SM CLR M01/M05 A2992 RMK AO2 SLP139 T10111050
KCNY	100.60	2024-02-04T10:53:00 +00:00	10.00	CLR, M, M, M	210.00 / 4.00	KCNY 041053Z AUTO 21004KT 10SM CLR M02/M07 A2996 RMK AO2 SLP152 T10171067

5.16 NOAA IGRA Radiosonde Wind Profile

Nearest sounding implies mean 0-12 km wind drift toward 257.0 deg at 11.95 m/s; a passive balloon could drift about 86.1 km in two hours under this crude layer-average model. Radiosonde winds are sparse station soundings; balloon drift remains approximate without launch time, ascent rate, object altitude, and exact line-of-sight bearing.

STATION	NAME	DISTANCE KM	SOUNDING UTC	MEAN DRIFT BEARING	MEAN SPEED M/S	2H DRIFT KM	MAX WIND
USM00072476	GRAND JUNCTION/ WALKER FIELD; C	81.60	2024-02-04T12:00:00+00:00	257.00	11.95	86.10	36.00 at 3595.00 m

5.17 NOAA GOES ABI/GLM Public File Manifest

GOES public S3 objects are listed for the report hour where available. This is an availability manifest, not yet a rendered satellite image.

SATELLITE	GOES18	BUCKET	noaa-goes18
ABI SAMPLE FILES	12	GLM SAMPLE FILES	12

ABI sample objects:

- [ABI-L2-CMIPF/2024/035/11/OR_ABI-L2-CMIPF-M6C01_G18_s20240351100225_e20240351109533_c20240351109594.nc](#)
- [ABI-L2-CMIPF/2024/035/11/OR_ABI-L2-CMIPF-M6C01_G18_s20240351110225_e20240351119533_c20240351120003.nc](#)
- [ABI-L2-CMIPF/2024/035/11/OR_ABI-L2-CMIPF-M6C01_G18_s20240351120225_e20240351129533_c20240351129592.nc](#)
- [ABI-L2-CMIPF/2024/035/11/OR_ABI-L2-CMIPF-M6C01_G18_s20240351130225_e20240351139533_c20240351140012.nc](#)

GLM lightning sample objects:

- [GLM-L2-LCFA/2024/035/11/OR_GLM-L2-LCFA_G18_s20240351100000_e20240351100200_c20240351100217.nc](#)
- [GLM-L2-LCFA/2024/035/11/OR_GLM-L2-LCFA_G18_s20240351100200_e20240351100400_c20240351100412.nc](#)
- [GLM-L2-LCFA/2024/035/11/OR_GLM-L2-LCFA_G18_s20240351100400_e20240351101000_c20240351101017.nc](#)
- [GLM-L2-LCFA/2024/035/11/OR_GLM-L2-LCFA_G18_s20240351101000_e20240351101200_c20240351101221.nc](#)

5.18 ADSB.lol Historical Aircraft Track Extraction

This layer uses the downloaded ADSB.lol daily history archive to test actual aircraft tracks near the report coordinate and minute. It is not treated as a primary-radar substitute; it is a transponder/receiver-derived aircraft screen.

ARCHIVE WINDOW	2024-02-04T10:11:00+00:00 to 2024-02-04T12:11:00+00:00	RADIUS	250.00 nmi
TRACE FILES SCANNED	45226	TRACKS RETAINED	47
SUPPORT STATUS	aircraft plausible candidate present	BEST-CANDIDATE NOTE	ordinary-object favored only if source wording is weak; high-value reports with radar/video/rapid maneuver language remain unresolved residuals.
STRONG CANDIDATES	0	PLAUSIBLE CANDIDATES	1
REPORTING-AIRCRAFT TRACKS EXCLUDED	0	WEAK CANDIDATES	9

5.19 Top ADS-B Candidate Tracks

AIRCRAFT	STATUS	SCORE	MIN DIST KM	NEAREST DT MIN	ALT FT	AZ	EL
N7901A B738 aaba81	plausible aircraft candidate	59.37	89.50	5.01	41000	291.50	7.52
N382UP B763 a46488	weak aircraft candidate	43.05	193.30	0.02	39025	62.30	1.74
		21.90	130.20	8.72	37000	65.80	4.35

7. Analytic Comparison

CRITERION	REPORT EVIDENCE	ANALYTIC TREATMENT
TIME CONSTRAINT	2024-02-04T11:11:00+00:00	Directly used in propagation; this is a hard filter, not descriptive context.
LOCATION CONSTRAINT	39.57672, -109.26713	Directly used as observer point for azimuth/elevation/range computation.
COUNT / PATTERN	three-object/light language present	No compact same-launch count match; retained for unresolved report features.
MOTION LANGUAGE	not explicit	Reported motion remains only partly explained; this is a principal reason for high-value unresolved status.
RADAR / OFFICIAL CHECK	radar observation claimed	Radar or hard maneuvering language is treated as a conflict/collection gap, not hand-waved away.
ANALYTIC DISPOSITION	unresolved	237UAP00607 was screened against historical public LEO catalog objects orbital elements at the extracted time and observer coordinate. The screen did not produce enough mundane evidence to close the case under the normal-object favored standard. Hard features retained for follow-up: radar/primary evidence.

8. Caveats, Limitations, and Collection Gaps

- No raw cockpit video, ATC replay, radar plot, or witness interview transcript was reviewed unless explicitly stated in the public source text.
- Aviation-derived coordinates can represent a nearby fix/radial or report point, not necessarily the actual line-of-sight intercept point.
- Starlink visibility depends on illumination, observer altitude, atmospheric conditions, and apparent brightness; this analysis tests geometry, not photometry. No brightness model is used unless explicitly stated elsewhere in the case file.
- TLE propagation is appropriate for screening and reconstruction but is not a substitute for authoritative operational ephemerides.
- When many satellites are above the horizon, generic presence is weak evidence and is not treated as causation. The report emphasizes named launch-object checks or compact same-launch trajectory groups.
- This case is retained as high-value unresolved because the hardest reported behavior is not resolved by the current normal-object layers.

Appendix A. Public Report Text Extracts

237UAP00607

Washington Operations Center

Date: 2/4/2024 4:11:00 AM (-07 MST)
Title: SCX3053 UFO-UAP ACTIVITY 02-04-2024
Latitude: 39.576718900000003 Latitude: -109.2671314

DESCRIPTION

PRELIM INFO FROM FAA OPS: MYTON, UT/UFO-UAP ACTIVITY/0411M/DENVER ARTCC ADVISED SUN COUNTRY 3053, B738, PDX - AFW, REPORTED AN UNIDENTIFIED AERIAL PHENOMENON OFF THE LEFT SIDE WHILE SE BOUND AT FL410 60 SE MYTON VOR (MTU). THE UAP APPEARED TO BE 5 SEPARATE CRAFT WITH WHITE LIGHTS TRAVELING BETWEEN FL600 AND FL800. NO PRIMARY TARGETS OBSERVED ON RADAR. WOC 7-3333 HM/JE

Appendix B. Computational Evidence Digest

This appendix preserves the principal computed values used in the assessment, shortened to the fields most relevant to audit and review.

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{
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  "historical_starlink_element_rows": 19608,
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    "lon": -109.2671314,
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    "element_epoch": "2024-02-04T10:58:15.157632+00:00",
    "elevation_deg": 73.01,
    "elevation_plus_2m_deg": 43.52,
    "elevation_plus_5m_deg": 18.57,
    "epoch_altitude_km": 1223.64,
    "ground_track_bearing_deg": 359.9,
    "ground_track_label": "N",
    "launch_date": "20020D",
    "launch_designator": "20020D",
    "name": "NORAD 45427",
    "norad_id": "45427",
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"ground_track_bearing_deg": 357.3,  
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Appendix C. Source Exhaustion Checklist

This checklist records which source layers were actually applied to this individual report. It separates checked evidence from unexhausted collection gaps so the disposition is auditable when the PDF is read alone.

SOURCE LAYER	STATUS	CASE-SPECIFIC NOTE
NARA PUBLIC UAP/FAA REPORT	reviewed	Source IDs: 237UAP00607
TIME AND OBSERVER COORDINATE	extracted	2024-02-04T11:11:00+00:00 at 39.57672, -109.26713
ORBITAL OBJECT PROPAGATION	screened	public LEO catalog objects
SPACE-TRACK SATCAT METADATA	screened	30 NORAD IDs checked; 30 matched in local SATCAT subset
LAUNCH-OBJECT/SUPGP LAYER	not applicable	not a launch-object case
NASA/JPL KNOWN SMALL-BODY LAYER	not selected	CAD/Horizons secondary screen included when this case had NEO-relevant timing/geometry
NASA POWER/HORIZONS/DONKI CONTEXT	not exhausted	Hourly weather, sky geometry, and space-weather context where local JSON is present
AIRCRAFT/ADS-B LAYER	screened	45226 trace files scanned; 47 tracks retained; aircraft plausible candidate present
NOAA GOES IMAGERY LAYER	not exhausted	Cloud/lightning imagery layer for the report hour
NOAA GOES ABI/GLM MANIFEST	screened	Public S3 object listing for the report hour
NOAA/NEXRAD WEATHER RADAR LAYER	not exhausted	Weather radar only; not ATC/primary radar
NOAA IGRA RADIOSONDE LAYER	screened	Balloon drift plausibility layer
ASOS/METAR SURFACE WEATHER	screened	Nearest station visibility, cloud, wind, precipitation, and METAR observations
WEATHER/BALLOON SOURCE PLAN	planned	Nearest weather-airport, GOES, and radiosonde queries are listed where local plan JSON is present
FINAL ANALYTIC DISPOSITION	high-value unresolved	Presence-only satellite density is context only; a stronger case-specific fit is required for normal-object disposition

References and Source Links

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2. National Archives and Records Administration. *Record Group 615: Unidentified Anomalous Phenomena Records Collection*. <https://www.archives.gov/research/topics/uaps/rg-615>
3. National Archives and Records Administration. *Bulk Downloads for Records Related to Unidentified Anomalous Phenomena (UAPs)*. <https://www.archives.gov/research/catalog/catalog-bulk-downloads/uap-bulk-download>
4. National Archives Catalog. *Records from the Federal Aviation Administration Relating to Unidentified Anomalous Phenomena, National Archives Identifier 493468575*. <https://catalog.archives.gov/id/493468575>
5. National Archives direct digital object. *237UAP00607.pdf, FAA UAP report record copied from RG 615 bulk digital objects*. <https://s3.dualstack.us-east-1.amazonaws.com/NARAprodstorage/lz/electronic-records/rg-615/493468575/237UAP00607.pdf>
6. Hugging Face dataset. *oxzoid/space-track-tle-history: historical TLE archive used for public LEO catalog objects screening*. <https://huggingface.co/datasets/oxzoid/space-track-tle-history>
7. Space-Track.org. *Public source for the underlying U.S. Space Surveillance Network TLE distribution referenced by the historical TLE archive*. <https://www.space-track.org/>
8. Space-Track.org. *API documentation for SATCAT and catalog metadata classes used for local enrichment*. <https://www.space-track.org/documentation#/api>
9. ADSB.lol. *Interactive API documentation and OpenAPI definition*. <https://api.adsb.lol/docs>
10. ADSB.lol. *Historical open-data release documentation*. <https://www.adsb.lol/docs/open-data/historical/>
11. OpenSky Network. *REST API documentation*. <https://openskynetwork.github.io/opensky-api/rest.html>
12. OpenSky Network. *Historical data via Trino documentation*. <https://openskynetwork.github.io/opensky-api/trino.html>
13. NASA GIBS. *Global Imagery Browse Services API documentation*. <https://nasa-gibs.github.io/gibs-api-docs/>
14. NASA Earthdata. *Common Metadata Repository search API documentation*. <https://cmr.earthdata.nasa.gov/search/site/docs/search/api.html>
15. NOAA / AWS Open Data. *GOES public dataset registry*. <https://registry.opendata.aws/noaa-goes/>
16. NOAA / AWS Open Data. *NEXRAD public dataset registry*. <https://registry.opendata.aws/noaa-nexrad/>
17. NOAA NCEI. *Integrated Global Radiosonde Archive*. <https://www.ncei.noaa.gov/products/weather-balloon/integrated-global-radiosonde-archive>
18. Iowa Environmental Mesonet. *ASOS/AWOS/METAR data download service*. <https://mesonet.agron.iastate.edu/request/download.phtml>
19. Celestrak. *Spacetrack Report No. 3: Models for propagation of NORAD element sets*. <https://celestrak.org/NORAD/documentation/spacetrk.pdf>
20. Celestrak. *Supplemental GP element sets documentation and current endpoint index*. <https://celestrak.org/NORAD/elements/supplemental/>