



SPACE-TRACK.ORG DEMONSTRATION

<https://www.space-track.org>

Thank you for the opportunity to provide an overview of our website, Space-Track.org. Space-Track.org is a Department of Defense website. This website is owned by the United States Space Command – also referred to as USSPACECOM. Daily management of the website is the responsibility of the organizations you see listed here, which include the U.S. Space Forces Space, Space Delta 2, the 18th Space Defense Squadron, and the 19th Space Defense Squadron. These organizations report to USSPACECOM. For the purposes of this brief, I'll refer to the organizations holistically as USSPACECOM.

Overview

- Login & Help
- Basic User Access
- Satellite Operator Access

The diagram illustrates the service levels offered by Space-Track.org, organized into three nested boxes. The outermost box is dark blue and represents 'BASIC SERVICES'. Inside it is a red box for 'EMERGENCY SERVICES', and the innermost is a white box for 'ADVANCED SERVICES'. Each box lists specific services and user statistics.

Service Level	Services	User/Account Statistics
BASIC SERVICES	Satellite catalog, element sets, reentry predictions, decays	180K+ User Accounts from 200+ Countries
EMERGENCY SERVICES	Conjunction Data Messages, Close Approach Notifications	785 Organizational Accounts 2,525 Conjunction Assessment Users 10,100 Active Spacecraft
ADVANCED SERVICES	Expanded services, accelerated timelines, additional data/information SSA Data Sharing Agreements:	142 companies, 35 countries, and 7 academic organizations

SPACE-TRACK.ORG

USSPACECOM is responsible for executing the DoD's space domain awareness mission. An important part of this mission is sharing space situational awareness data and services, or "SSA", which include launch support, on-orbit conjunction assessment and collision avoidance support, anomaly resolution support, electromagnetic interference investigation, end-of-life and disposal support, deorbit support and reentry assessment. USSPACECOM provides these spaceflight safety services to promote transparency in the space domain and support the safety of space flight for satellite operators around the world. Space-Track.org is the primary platform for SSA data sharing, and offers a variety of data services. Basic services are available to any registered Space-Track user. Today we have over 180,000 users from over 190 nations. The core products available to basic users includes the satellite catalog, element set data, reentry predictions and decay confirmations. The second level of service is emergency services, which are provided to the owners and operators of active spacecraft. This service includes conjunction data messages, or "CDMs", maneuver information, and, if they are also registered with space-track.org, USSPACECOM enables access to the owner/operator directory. For entities who have signed SSA Sharing Agreements with USSPACECOM, we also offer advanced services, which provide expanded information and services on accelerated timelines. Today's demo will focus on basic user access and satellite operator access. It's important to note that while we can provide a variety of SSA data and services, we cannot provide advice to owners/operators, or tell owner/operators what to do. So, we focus on providing high quality SSA data at no cost to empower owner/operators to make informed decisions.

Login Page

SPACE-TRACK.ORG

LOGIN HELP

Current Time (UTC)
2024-05-24 21:55:37

LOGIN TO SPACE-TRACK.ORG

Username

Password

[Forgot password](#) [Forgot username](#) [LOGIN](#)

[Create Account](#)

SPACE SCOREBOARD

OBJECT TYPE	APPROX. OBJECTS
Active Payloads	10100
Analyst Objects	16200
Debris	18700
Total	45000

NOTE:
All numbers are approximate.
Analyst objects are variably tracked and in constant flux, so their catalog and element set data are not published on this website. Visit [FAQs](#) for more information.

Space-Track.org promotes space flight safety, protection of the space environment and the peaceful use of space worldwide by sharing space situational awareness services and information with U.S. and international satellite owners/operators, academia and other entities. Please ensure that you understand the user agreement.

This website requires cookies to function properly. By logging in, you explicitly agree to the use of cookies. For more information see our [privacy policy](#).

If you need help with the website, email admin@space-track.org. For information on data requests/exchange, advanced SSA services, and how to register your satellite/payload with 18 SDS, visit the [SSA Sharing/ODR](#) page.

Please visit our social media sites on [facebook](#) or [twitter](#) to read about new features, get information, and interact with the Space-Track team.

Developed by SAIC under contract to S4S-CJFSOC. [Contact Us](#)

Before we explain the information available through the website, we'll start with the login page where you can access some information without creating a user account. Specifically, you see the Space Scoreboard, which provides daily updates on the number of objects tracked by USSPACECOM.

Help Panel

SPACE-TRACK
Current Time (UTC)
2024-05-24 21:57:40

[LOGIN](#) | [HELP](#)

LOGIN TO SPACE-TRACK

[Forgot password?](#)
[Forgot username?](#)

[Create Account](#)

API

HOW TO USE

FAQ

LEGEND

TLE FORMAT

DATA REQUESTS

LASER CLEARHOUSE

USER AGREEMENT

PRIVACY

CONTACT US

SPACE OBJECT TYPE	COUNT
Active Payloads	10100
Analyst Objects	16200
Debris	18700
Total	45000

NOTE:

All numbers are approximate.

Analyst objects are variably tracked and in constant flux, so their catalog and element set data are not published on this website. Visit FAQs for more information.

Space-Track.org promotes space flight safety, protection of the space environment and the peaceful use of space worldwide by sharing space situational awareness services and information with U.S. and international satellite owners/operators, academia and other entities. Please ensure that you understand the user agreement.

This website requires cookies to function properly. By logging in, you explicitly agree to the use of cookies. For more information see our privacy policy.

If you need help with the website, email admin@space-track.org. For information on data requests/exchange, advanced SSA services, and how to register your satellite/payload with 18 SDS, visit the [SSA Sharing/ODR page](#).

Please visit our social media sites on facebook or twitter to read about new features, get information, and interact with the Space-Track team.

Under the Help Panel, we have numerous resources to help you interact with Space-Track. We'll focus on three of the main pages – API, How To, and Data Requests – but we highly encourage you to explore the others.

Help Panel: API

SPACE-TRACK.ORG

HOME · HELP · samplestacdt@gmail.com · Current Time (UTC) 2024-05-24 23:10:51

HELP DOCUMENTATION

API · How To · FAQ · Legend · TLE Format · Data Requests · Laser Clearinghouse · SGP4 · User Agreement · Privacy · Contact Us

Introduction to the API

Overview · Usage · RESTful Requests · API Classes · REST Operators · REST Predicates · Formats · Sample Queries

Overview

Space-Track.org's Application Programming Interface (API) allows users to access data on this site programmatically using custom, stable URLs with configurable parameters. This API conforms to the general principles of a design called Representational State Transfer or "REST" and is identical to the data returned in the site's Graphical User Interface (GUI). The API can return data in a variety of machine-friendly formats to facilitate machine-to-machine communications.

This API is designed to replace 'screen-scraping' and downloading bulk .zip and .txt files. The "How To" Page describes procedures to download only the new data since your last visit and how to use tools like cURL and wget to retrieve data programmatically.

We also provide several Sample Queries below as well as the Query Builder to get you started.

If you are going to develop scripts that query our API and believe that developing/testing them could violate our API guidelines, please [Contact Us](#) to request access to our test server. This will enable you to develop your scripts against the same API without affecting the production server.

API Use Guidelines

API Throttling:
Space-track throttles API use in order to maintain consistent performance for all users. To avoid error messages, please limit your query frequency.

Limit API queries to less than 30 requests per 1 minute(s) / 300 requests per 1 hour(s)

To prevent excess bandwidth costs, please do not exceed the following data retrieval rates for your automated scripts:

Type	Frequency	Details
CDM	3 / day	Once every 8 hours for all constellation Conjunction Data Messages (CDM)
CDM+	1 / hour	Once every hour for a specific conjunction event (Note: The 18 SDS will continue to send Close Approach (CA) emails to satellite owners/operators)

Developed by SINC under contract to BAS-CJFSDC. Contact Us

Back to top

Space-Track has a robust Application Programming Interface, or API, that allows users to provide and retrieve data in an automated, machine-to-machine fashion. While the website features many convenient graphical user interfaces, the strength of the platform is its API. As you can see, this page offers a wealth of guidance on how to leverage the API, and stay within API guidelines to optimize performance of the website. Space-Track averages over a quarter million API queries per day.

Help Panel: How To

The screenshot shows the 'How To' page of the Space-Track.org help panel. The page has a dark blue header with the 'SPACE-TRACK.ORG' logo and navigation links for 'HOME' and 'HELP'. A user profile 'samplestack@gmail.com' and the 'Current Time (UTC) 2024-05-24 23:11:45' are displayed in the top right. Below the header, a 'HELP DOCUMENTATION' section contains links for 'API', 'How To', 'FAQ', 'Legend', 'TLE Format', 'Data Requests', 'Laser Clearinghouse', 'SGP4', 'User Agreement', 'Privacy', and 'Contact Us'. The 'How to Use the API' section features a row of buttons: 'Getting a Cookie', 'Download Data via cURL', 'Download Public Files', 'Using WGet', 'Using C#', 'Using C++', 'Using Java', 'Using Python', and 'Getting the Delta'. A yellow disclaimer box states that while many free software packages are available, Space-Track.org does not endorse any particular application and recommends using cURL. The 'How to login and get a cookie' section explains that Space-Track.org uses encrypted cookies and provides two login methods: a graphical user interface (GUI) and a scripted application programming interface (API). A red warning box follows, stating that all scripts and programs should connect via 'https://www.space-track.org/ajaxauth/login' and that using any other access URL will cause the attempt to fail. The 'How to logout and close a session' section instructs users to send a 'https://www.space-track.org/ajaxauth/logout' request. A 'Back to top' link is provided. The 'How to return data through the API using cURL (recommended)' section is partially visible at the bottom. The footer includes social media icons for Facebook and Twitter, a statement 'Developed by SAIC under contract to NASA/CNRS/ESA', a 'Contact Us' link, and another 'Back to top' link.

SPACE-TRACK.ORG

HOME HELP

samplestack@gmail.com
Current Time (UTC)
2024-05-24 23:11:45

HELP DOCUMENTATION

API How To FAQ Legend TLE Format Data Requests Laser Clearinghouse SGP4 User Agreement Privacy Contact Us

How to Use the API

Getting a Cookie Download Data via cURL Download Public Files Using WGet Using C# Using C++ Using Java Using Python Getting the Delta

Disclaimer: There are many free software packages available for retrieving files using standard protocols. Space-Track.org does not endorse nor support any particular application, but we do provide these instructions and examples to help our users. Note that we recommend using cURL because it can both send and retrieve data/files. Although we provide instructions for wget, our users have encountered more problems using wget than cURL.

How to login and get a cookie

space-track.org uses encrypted cookies for session handling. There are two ways to obtain the session cookie:

1. Graphical User Interface (GUI) users login normally using the web interface: <https://www.space-track.org/auth/login>
2. Scripted Application Programming Interface (API) users login by sending a HTTP POST request (identity=your_username&password=your_password) to: <https://www.space-track.org/ajaxauth/login> (examples below)

WARNING: ALL scripts and programs should connect via <https://www.space-track.org/ajaxauth/login>. Using ANY other access URL will cause the attempt to fail.

How to logout and close a session

Logout by sending a <https://www.space-track.org/ajaxauth/logout> request (examples below)

Back to top

How to return data through the API using cURL (recommended)

Developed by SAIC under contract to NASA/CNRS/ESA Contact Us

Back to top

On the 'How To' page you'll find procedures to download only the new data since your last visit and how to use various tools like to retrieve data programmatically. Space-Track also has a testing site where users can test their scripts without impacting the live site.

Help Panel: Data Requests

The screenshot shows the 'SPACE-TRACK.ORG' website with a dark blue header. The 'HELP' menu is open, showing 'API', 'How To', 'FAQ', 'Legend', 'TLE Format', 'Data Requests' (selected), 'Laser Clearinghouse', 'User Agreement', 'Privacy', and 'Contact Us'. The 'Data Requests' page is titled 'SSA Sharing & Orbital Data Requests (ODR)'. It features a sub-menu with 'SSA Sharing & Orbital Data Requests' and 'Data Examples & Forms'. The main content area contains a paragraph about SSA information sharing and a list of services categorized into Basic, Emergency, and Advanced services. The footer includes social media icons, a development note, and a 'Back to top' link.

SPACE-TRACK.ORG

LOGIN HELP

Current Time (UTC)
2024-05-24 22:00:13

HELP DOCUMENTATION

API How To FAQ Legend TLE Format **Data Requests** Laser Clearinghouse User Agreement Privacy Contact Us

SSA Sharing & Orbital Data Requests (ODR)

SSA Sharing & Orbital Data Requests Data Examples & Forms

As the United States government agency responsible for Space Situational Awareness (SSA) information, United States Space Command (USSPACECOM), is committed to promoting a safe, stable, sustainable, and secure space environment through SSA information sharing. As more countries, companies, and non-governmental organizations field space capabilities and benefit from the use of space systems, it is in our collective interest to act responsibly and to enhance overall spaceflight safety. To achieve effective SSA, USSPACECOM seeks to increase cooperation and collaboration with partners and space-faring entities through the exchange of SSA data and provision of SSA services. The Space Forces - Space (SFS) - Combined Joint Force Space Component Commander (CJFSCC) provides SSA services through this website and the 18th Space Defense Squadron (18 SDS), located at Vandenberg Space Force Base, California. There are three levels of SSA services: basic, emergency, and advanced.

- ▼ Basic Services
 - Basic SSA Information
 - Redistribution of Basic SSA Information
- ▼ Emergency Services
 - 18 SDS provides emergency services to customers with specific needs, such as those who operate satellites.
 - Anomaly Resolution
 - Basic Emergency Conjunction Assessment (On-Orbit)
 - Basic Emergency Collision Avoidance (On-Orbit)
- ▼ Advanced Services
 - Advanced services are available to all entities who sign an SSA Sharing Agreement with USSPACECOM.
 - Launch Conjunction Assessment
 - Launch Early Orbit Determination
 - Early Orbit Conjunction Assessment
 - Advanced Conjunction Assessment (On-Orbit)
 - Advanced Collision Avoidance (On-Orbit)
 - Inposal/End-of-Life Support
 - Deorbit and Reentry Support
 - SSA Sharing Agreement
 - Orbital Data Request
 - Register Your Satellite/Payload with 18 SDS
 - Communicating and Coordinating with 18 SDS
 - U.S. Government Entities and Contractors
 - Frequently Asked Questions
 - About Us/Contact Us

Developed by SAIC under contract to S4S-CJFSCC. Contact Us

Back to top

The Data Requests page provides detailed information on our SSA Sharing services, including forms to request data, submit information or register your satellite, as well as examples and explanations of data formats. This is an excellent resource to come back to after we complete today's demonstration. Now we will transition to basic user access.

Home Panel

SPACE-TRACK.ORG samplestact@gmail.com - Current Time (UTC) 2024-05-24 23:13:58

HOME **HELP**

Welcome Box Score SATCAT Decay/Reentry Query Builder Favorites ELSET Search Recent ELSETs SSR Conjunctions Public Files Space Ops Tempo

ELEMENT SET (ELSET) DATA
Retrieve ELSET Data by Satellite Catalog Number
Bulk Catalog Data Downloads
TLE Format Description
CCSDS OMM Standard

SATELLITE CATALOG (SATCAT) DATA
Satellite Box Score (API)
Satellite Search
Catalog Change Report - now parts 4 & 5 of the SSR
Geosynchronous Report (API)
Satellite Situation Report

SATELLITE DECAY & REENTRY DATA
Satellite Decays: Predictions and 10+ Messages
Search the SATCAT by Satellite Decay Date

RESOURCES
NASA Spacecraft Conjunction Assessment and Collision Avoidance Best Practices Handbook
Spaceflight Safety Handbook
Launch Collision Avoidance Handbook
Satellite Registration Form
Data & Support Requests

MY ACCOUNT
My Profile
Change Password
Change Theme
My Favorites

Name	ID	Description
1. [Name]	[ID]	[Description]
2. [Name]	[ID]	[Description]
3. [Name]	[ID]	[Description]
4. [Name]	[ID]	[Description]
5. [Name]	[ID]	[Description]
6. [Name]	[ID]	[Description]
7. [Name]	[ID]	[Description]
8. [Name]	[ID]	[Description]
9. [Name]	[ID]	[Description]
10. [Name]	[ID]	[Description]
11. [Name]	[ID]	[Description]
12. [Name]	[ID]	[Description]
13. [Name]	[ID]	[Description]
14. [Name]	[ID]	[Description]
15. [Name]	[ID]	[Description]
16. [Name]	[ID]	[Description]
17. [Name]	[ID]	[Description]
18. [Name]	[ID]	[Description]
19. [Name]	[ID]	[Description]
20. [Name]	[ID]	[Description]
21. [Name]	[ID]	[Description]
22. [Name]	[ID]	[Description]
23. [Name]	[ID]	[Description]
24. [Name]	[ID]	[Description]
25. [Name]	[ID]	[Description]
26. [Name]	[ID]	[Description]
27. [Name]	[ID]	[Description]
28. [Name]	[ID]	[Description]
29. [Name]	[ID]	[Description]
30. [Name]	[ID]	[Description]
31. [Name]	[ID]	[Description]
32. [Name]	[ID]	[Description]
33. [Name]	[ID]	[Description]
34. [Name]	[ID]	[Description]
35. [Name]	[ID]	[Description]
36. [Name]	[ID]	[Description]
37. [Name]	[ID]	[Description]
38. [Name]	[ID]	[Description]
39. [Name]	[ID]	[Description]
40. [Name]	[ID]	[Description]
41. [Name]	[ID]	[Description]
42. [Name]	[ID]	[Description]
43. [Name]	[ID]	[Description]
44. [Name]	[ID]	[Description]
45. [Name]	[ID]	[Description]
46. [Name]	[ID]	[Description]
47. [Name]	[ID]	[Description]
48. [Name]	[ID]	[Description]
49. [Name]	[ID]	[Description]
50. [Name]	[ID]	[Description]

Developed by SAIC under contract to NASA-CRSCG. Contact Us

Back to top

Once you create an account, you'll have access to everything you see here on Space-Track's homepage as a Basic User. The three main components of Basic User access are the Satellite Catalog, Element Set Data, and Satellite Decay and Reentry Data. You'll also find several resources here, such as NASA's Best Practices Handbook, USSPACECOM's handbooks for satellite operators and launch conjunction assessment, and the satellite registration form. The handbooks provide valuable information on conjunction assessment operations and data formats. The satellite registration form is submitted by owner/operators to USSPACECOM and includes all of the information we need in order to provide conjunction assessment services. I'll note that registration of a satellite with space-track.org is different from space object registration with the United Nations pursuant to the Registration Convention, which is handled by the Department of State.

Home Panel: SATCAT

SPACE-TRACK.ORG

samplestactact@gmail.com - Current Time (UTC) 2024-05-24 23:15:51

HOME - HELP -

WelcomeBox ScoreSATCATDecay/ReentryQuery BuilderFavoritesELSET SearchRecent ELSETsSSRConjunctionsPublic FilesSpace Ops Tempo

SATELLITE CATALOG

Show 10 entries

Search All Columns:

NORAD CAT ID	SATNAME	INTLDES	TYPE	COUNTRY	LAUNCH	SITE	DECAY	PERIOD	INCL	APOGEE	PERIGEE	RCS	LATEST ELSET
1	SL-1 R/B	1957-001A	ROCKET BODY	CIS	1957-10-04	TTMTR	1957-12-01	96.19	65.10	938	214	LARGE	TLE OMM
2	SPUTNIK 1	1957-001B	PAYLOAD	CIS	1957-10-04	TTMTR	1958-01-03	96.10	65.00	1080	64		TLE OMM
3	SPUTNIK 2	1957-002A	PAYLOAD	CIS	1957-11-03	TTMTR	1958-04-14	103.74	65.33	1659	211	SMALL	TLE OMM
4	EXPLORER 1	1958-001A	PAYLOAD	US	1958-02-01	AFETR	1970-03-31	88.48	33.15	215	183		TLE OMM
5	VANGUARD 1	1958-002B	PAYLOAD	US	1958-03-17	AFETR		132.67	34.25	3826	652	SMALL	TLE OMM
6	EXPLORER 3	1958-003A	PAYLOAD	US	1958-03-26	AFETR	1958-06-28	103.60	33.50	1739	117		TLE OMM
7	SL-1 R/B	1958-004A	ROCKET BODY	CIS	1958-05-15	TTMTR	1958-12-03	102.74	65.14	1571	206		TLE OMM
8	SPUTNIK 3	1958-004B	PAYLOAD	CIS	1958-05-15	TTMTR	1960-04-06	88.43	65.06	255	139	LARGE	TLE OMM
9	EXPLORER 4	1958-005A	PAYLOAD	US	1958-07-26	AFETR	1959-10-23	92.81	50.25	585	239		TLE OMM
10	SCORE	1958-006A	PAYLOAD	US	1958-12-18	AFETR	1959-01-21	98.21	32.29	1187	159		TLE OMM

NORAD CAT ID

SATNAME

INTLDES

TYPE

COUNTRY

LAUNCH

SITE

DECAY

PERIOD

INCL

APOGEE

PERIGEE

RCS

Showing 1 to 10 of 59,756 entries

First

Previous

1

2

3

4

5

5976

Next

Last

Country Legend

Launch-Site Legend

RCS Legend

Developed by SATC under license to NASA/GSFC. Contact Us

Back to top

The satellite catalog, or “SATCAT,” is a list of space objects of known origin that have been reliably tracked by USSPACECOM. Each entry in the catalog includes the satellite number, common name, international designator, object type, country, launch date, launch site and associated orbital parameters and general size. USSPACECOM updates the SATCAT daily with new objects, recent decays and current orbital parameters. The table also features quick links to the latest element set for each object in the two-line element set format or the Orbit Mean Message format. As you can see, there are currently over 59,000 entries in the catalog. The graphical user interface, or “GUI,” allows you to sort by any of the data values using the boxes in each column. More advanced queries can be done through the API or the Query Builder, to determine statistics such as the number of payloads on orbit on a given date in time, or what objects are within a specific orbital regime. Information from the SATCAT is used to build the Box Score, which lists objects by type and on-orbit status for each nation, and the Satellite Situation Report, or SSR, which provides quick links to recently launched and decayed objects.

Home Panel: ELSET Search

Space-Track.org

HOME · HELP · samplestacct@gmail.com · Current Time (UTC) 2024-05-24 23:20:56

Welcome Box Score SATCAT Decay/Reentry Query Builder Favorites **ELSET Search** Recent ELSETs SSR Conjunctions Public Files Space Ops Tempo

HISTORICAL ELSET SEARCH

Entries

25544

SORT BY

- ☒ NORAD_CAT_ID
- ☐ EPOCH
- ☐ Descending

EPOCH

- ☒ Latest
- ☐ Date Range

From: 1988-11-20 To: 1988-11-24

LOAD DATA

API https://www.space-track.org/basicspacedata/query/class/gp_history/NORAD_CAT_ID/25544/orderby/TLE_LINE1_ASC/EPOCH/1988-11-20-1988-11-24/format/tle AS TLE AS 3LE AS XML AS RVN AS JSON

1	25544U	98067A	98324.28472222	-0.0003657	11563-4	00000+0	0	9996
2	25544	051.5908	168.3788	0125362	006.4185	359.7454	16.05064833	05
1	25544U	98067A	98324.33235038	-11839616	11568-4	37349-2	0	9993
2	25544	051.6173	168.1899	0123410	008.0187	273.4932	16.04971811	11
1	25544U	98067A	98324.45674522	-0.0043259	11566-4	-18040-4	0	9996
2	25544	051.5924	167.4337	0125858	091.3619	369.4508	16.05134416	30
1	25544U	98067A	98324.51913017	-00713053	11562-4	34316-3	0	9991
2	25544	051.5959	167.1152	0123861	087.8179	273.5890	16.05062967	44
1	25544U	98067A	98324.58148004	-00632617	11564-4	30202-3	0	9993
2	25544	051.5951	166.7799	0123964	088.1727	273.3425	16.05074568	54
1	25544U	98067A	98324.64367013	-00537185	11565-4	25489-3	0	9998
2	25544	051.5937	166.4421	0124158	008.5925	273.1698	16.05118828	65
1	25544U	98067A	98324.89267077	-00616830	11572-4	29139-3	0	9993
2	25544	051.5947	165.1812	0122649	089.2072	272.3814	16.05443269	181
1	25544U	98067A	98325.01735306	-00560817	-11577-4	-20634-3	0	9996
2	25544	051.5927	164.4358	0123823	089.5268	271.9768	16.05621877008127	
1	25544U	98067A	98325.45376114	-01829538	18113-2	41638-2	0	9996

Developed by SNAI under contract to BAS-CJFSC. Contact Us

Back to top

Space-Track hosts a historical database of element sets, referred to as elsets, going back to 1957. The database includes over 200 million elsets, and receives an average of 50,000 new elsets each day. Elsets are updated at least once per day. Just like the SATCAT, elset data can be retrieved through convenient GUIs like this one, or through the API. The API allows you to query the data in multiple formats, including XML, HTML, CSV, KVN or JSON. You can also retrieve elset data through the Recent Elsets page, which provides quick links to specific constellations and orbital regimes, and well-tracked objects of unknown origin. Users are allowed to redistribute elset data through their own platforms, services, or publications, we just ask that Space-Track is cited as the source. If you use a website that relies on element set data, chances are very good that much of it came from Space-Track.org.

Home Panel: Decay/Reentry

The screenshot displays the 'Decay/Reentry' section of the Space-Track.org website. The interface includes a navigation bar with links like 'HOME', 'HELP', 'Welcome', 'Box Score', 'SATCAT', 'Query Builder', 'Favorites', 'ELSET Search', 'Recent ELSETs', 'SSR', 'Conjunctions', 'Public Files', and 'Space Ops Tempo'. The main content area is titled 'DECAY DATA' and shows a table of objects. The table has columns for NORAD CAT ID, SATNAME, INTLDES, COUNTRY, MSG_EPOCH, DECAY_EPOCH, RCS, SOURCE, ELSET, and TYPE. A white box highlights the 'SOURCE' column, showing 'TIP_msg' for objects with a 'PREDICTION' type. The table lists objects like STARLINK-2758, COSMOS 2251 DEB, and NOAA 16 DEB. A search bar and pagination controls are also visible.

NORAD CAT ID	SATNAME	INTLDES	COUNTRY	MSG_EPOCH	DECAY_EPOCH	RCS	SOURCE	ELSET	TYPE
48638	STARLINK-2758	2021-0444A	US	2024-05-24 21:55:00	2024-05-25 9:56:00	LARGE	TIP_msg	TLE OMM	Prediction
34298	COSMOS 2251 DEB	1993-036MU	CIS	2024-05-24 21:50:00	2024-05-23 0:00:00	SMALL	decay_msg	TLE OMM	Historical
35676	COSMOS 2251 DEB	1993-036APT	CIS	2024-05-24 21:50:00	2024-05-23 0:00:00	SMALL	decay_msg	TLE OMM	Historical
35227	FENGYUN 1C DEB	1999-025DQK	PRC	2024-05-24 21:50:00	2024-05-21 0:00:00	SMALL	decay_msg	TLE OMM	Historical
12159	SL-6 R/B(2)	1981-009D	CIS	2024-05-24 21:46:00	2024-05-24 20:14:00	LARGE	TIP_msg	TLE OMM	Prediction
34069	COSMOS 2251 DEB	1993-036KG	CIS	2024-05-24 21:37:00	2024-05-21 0:00:00	SMALL	decay_msg	TLE OMM	Historical
52733	LEMUR 2 VANDENDRIES	2022-057B	US	2024-05-24 21:37:00	2024-05-21 0:00:00	SMALL	decay_msg	TLE OMM	Historical
55251	OBJECT D	2023-007D	PRC	2024-05-24 21:37:00	2024-05-21 0:00:00	MEDIUM	decay_msg	TLE OMM	Historical
41092	NOAA 16 DEB	2000-055EB	US	2024-05-24 21:37:00	2024-05-20 0:00:00	SMALL	decay_msg	TLE OMM	Historical
48168	NOAA 17 DEB	2002-032J	US	2024-05-24 21:37:00	2024-05-19 0:00:00	SMALL	decay_msg	TLE OMM	Historical

The Decay/Reentry page features predictions for uncontrolled reentering objects and orbital decay confirmations. If an object is larger than 1 meter squared, USSPACECOM will process it for reentry assessment and generate Tracking and Impact Prediction – or TIP – messages when it is within 4 days of predicted reentry. The TIP messages, which you can see in the white box, provide the predicated latitude and longitude of atmospheric reentry, with predicted decay epoch. Once the reentry is confirmed, USSPACECOM will issue a decay message. For objects smaller than 1 meter squared, only the decay confirmation is issued. Both of these messages are updated near real-time on Space-Track and maintained in the database. Today, Space-Track hosts over 14,000 TIP messages, and over 100,000 total entries, for past and predicted reentries.

Home Panel: Conjunctions

SPACE-TRACK.ORG

samplestacct@gmail.com

Current Time (UTC)
2024-05-24 23:24:19

HOME

HELP

Welcome

Box Score

SATCAT

Decay/Reentry

Query Builder

Favorites

ELSET Search

Recent ELSETs

SSR

Conjunctions

Public Files

Space Ops Tempo

PUBLIC CONJUNCTIONS

LOAD PUBLIC CONJS

Show 10 entries

Search All Columns

GENERAL							SAT 1				SAT 2				
CONJ_ID	CREATED	EMERGENCY REPORTABLE	TCA	MINIMUM RANGE	COLLISION PROBABILITY	ID	NAME	OBJECT TYPE	RCS	EXCLUSION VOLUME	ID	NAME	OBJECT TYPE	RCS	EXCLUSION VOLUME
712939462	2024-04-25 01:34:27.000000	Y	2024-04-27 06:09:34.512000	560	0.0001093865	4158	THORAD AGENA D DEB	DEBRIS	MEDIUM	1.00	56594	CZ-6A DEB	DEBRIS	SMALL	1.00
712941607	2024-04-25 01:34:41.000000	Y	2024-04-25 12:45:12.495000	368	0.0001347659	8836	SSU 2	PAYLOAD	MEDIUM	5.00	30218	FENGYUN 1C DEB	DEBRIS	SMALL	1.00
712941620	2024-04-25 01:34:41.000000	Y	2024-04-25 18:44:17.482000	229	0.0001623728	8845	METEOR 1-25	PAYLOAD	LARGE	5.00	31229	FENGYUN 1C DEB	DEBRIS	SMALL	1.00
712941743	2024-04-25 01:34:42.000000	Y	2024-04-27 15:25:31.377000	314	0.0001052355	9025	COSMOS 842	PAYLOAD	LARGE	5.00	38265	YAOGAN 7 DEB	DEBRIS	SMALL	1.00
712942396	2024-04-25 01:34:46.000000	Y	2024-04-26 10:55:13.473000	457	0.0001096478	10572	COSMOS 970 DEB	DEBRIS	MEDIUM	1.00	278025	UNKNOWN	UNKNOWN	SMALL	3.00
712942511	2024-04-25 01:34:47.000000	Y	2024-04-25 15:29:49.184000	314	0.0001027393	10918	SL-B RB	ROCKET BODY	LARGE	3.00	42561	DELTA 1 DEB *	DEBRIS	SMALL	1.00
712942986	2024-04-25 01:34:51.000000	Y	2024-04-26 23:20:27.401000	880	0.0001352528	12354	COSMOS 1174 DEB	DEBRIS	MEDIUM	1.00	21798	DMSF 5D-2 F11 (USA F3)	PAYLOAD	LARGE	5.00
712943799	2024-04-25 01:34:56.000000	Y	2024-04-26 07:29:12.687000	45	0.0001347338	13478	COSMOS 1275 DEB	DEBRIS	SMALL	1.00	32324	FENGYUN 1C DEB	DEBRIS	SMALL	1.00
712945678	2024-04-26 01:35:08.000000	Y	2024-04-26 17:13:30.385000	730	0.0001323008	16969	NOAA 10	PAYLOAD	LARGE	5.00	35405	CZ-4B DEB	DEBRIS	SMALL	1.00
712946251	2024-04-26 01:35:12.000000	Y	2024-04-26 12:20:55.619000	306	0.0002443711	18187	COSMOS 1867	PAYLOAD	LARGE	5.00	41861	NOAA 16 DEB	DEBRIS	SMALL	1.00

CONJ_ID

CREATED

EMERGENCY REPORTABLE

TCA

MINIMUM RANGE

COLLISION PROBABILITY

ID

NAME

OBJECT TYPE

RCS

EXCLUSION VOL

ID

NAME

OBJECT TYPE

RCS

EXCLUSION VOL

Developed by SANC under contract to S4S-CFSCC. Contact Us

Back to top

USSPACECOM screens all resident space objects against all other resident space objects for possible conjunctions, regardless of the operational status of the spacecraft. On this page, you can view the basic conjunction details for debris against debris events. Debris includes dead payloads, R/Bs and debris. This page is updated several times per day.

Home Panel: Public Files

SPACE-TRACK.ORG

samplestact@gmail.com

Current Time (UTC)
2024-05-24 23:24:51

HOME · HELP ·

Welcome · Box Score · SATCAT · Decay/Reentry · Query Builder · Favorites · ELSET Search · Recent ELSETs · SSR · Conjunctions · **Public Files** · Space Ops Tempo

Please see instructions below for field descriptions and data types.

PUBLIC FILES

Show 10 entries

Search All Columns:

SOURCE	TYPE	DATE	LINK	SIZE
NASA-JSC	ReadMe	2024-05-14 16:13:24	NASA/JSC_ReadMe_23643_ReadMe_2024-05-14UTC16:13:16_1.zip	685 Bytes
NASA-JSC	Ephemeris	2024-05-24 19:41:01	NASA/JSC_Ephemeris_23644_15Day_2024-05-24UTC19:40:54_1.zip	393.04 KB
NASA-JSC	Ephemeris	2024-05-22 15:26:40	NASA/JSC_Ephemeris_23644_8Week_2024-05-22UTC15:26:34_1.zip	1.07 MB
SpaceX	Ephemeris	2024-05-24 05:29:55	SpaceX_Ephemeris_552_SpaceX_2024-05-24UTC05:21:03_1.zip	493.59 MB
SpaceX	Ephemeris	2024-05-24 05:26:56	SpaceX_Ephemeris_552_SpaceX_2024-05-24UTC05:21:03_10.zip	324.49 MB
SpaceX	Ephemeris	2024-05-24 05:39:05	SpaceX_Ephemeris_552_SpaceX_2024-05-24UTC05:21:03_2.zip	497.69 MB
SpaceX	Ephemeris	2024-05-24 05:39:59	SpaceX_Ephemeris_552_SpaceX_2024-05-24UTC05:21:03_3.zip	496.87 MB
SpaceX	Ephemeris	2024-05-24 05:30:08	SpaceX_Ephemeris_552_SpaceX_2024-05-24UTC05:21:03_4.zip	497.7 MB
SpaceX	Ephemeris	2024-05-24 05:30:37	SpaceX_Ephemeris_552_SpaceX_2024-05-24UTC05:21:03_5.zip	499.23 MB
SpaceX	Ephemeris	2024-05-24 05:29:58	SpaceX_Ephemeris_552_SpaceX_2024-05-24UTC05:21:03_6.zip	497.78 MB

SOURCE · TYPE · DATE · LINK · SIZE

Showing 1 to 10 of 31 entries

First · Previous · 1 · 2 · 3 · 4 · Next · Last

Public Files

Public data files are archives of files designed to be downloaded by the public.
Large sets of data are broken into smaller chunks to make it easier to download. Each file will have the part number appended to the end of the file name.
For NASA-JSC ephemeris, please see data type ReadMe for usage instructions.
Source - source of the data.
Type - type of data stored in the file. Can be a regular data type, such as Ephemeris, Maneuver, Moad, ReadMe, or Other if applicable.
Date - date at which the file was generated.
Link - temporary, short-lived link to download the file.
Size - size of that specific file.

Developed by SASC under contract to S4S-CJFSCC. Contact Us

Back to top

The vast majority of the data on Space-Track.org is sourced from the U.S. Space Surveillance Network. However, we recently created the capability for users to share their data with all other Space-Track users to increase transparency and support spaceflight safety efforts. For example, SpaceX shares all of their predictive ephemeris for their Starlink constellation, and NASA shares data for the International Space Station. We have several other interested satellite operators, so this list will likely grow in the coming year. Everything we've covered up to this point is available to all registered users on Space-Track. Now we'll shift to what is available on Space-Track for satellite owners and operators.

Operator Panel

The Operator Panel is exclusively for spacecraft owners and operators who have registered with USSPACECOM. Registration begins with the Satellite Registration Form, which you see here. The form requests basic information about the organization and the spacecraft, launch date and vehicle, and the Space-Track accounts of the owner/operators. Once the satellite launches and is identified, we link the satellite and its information to the owner/operator's space-track.org account. This linkage ensures that only the owner/operators have access to conjunction data messages, or "CDMs" for the satellite. This process also provides access to maneuver information shared by other owner/operators and the Owner/Operator Directory, as well as the ability to manage and share information about specific spacecraft for inclusion in CDMs. We designed the Operator Panel to foster direct communication and coordination between satellite operators. Our intent was to decrease the dependence on USSPACECOM for timely coordination.

Operator Panel: CDM

SPACE-TRACK.ORG

HOME • OPERATOR • FILES • HELP •

sampletrack@gmail.com •
Current Time (UTC)
2024-05-24 22:30:57

OPERATOR PANEL

CDM Directory Maneuver Manage Help

CONJUNCTION DATA MESSAGE

Organizations
SAMPLE ORGANIZATION

TCA Start Date (UTC)
2024-05-21

TCA End Date (UTC)
2024-06-07

LOAD CDMs

Show 10 entries

Search All Columns:

CONSTELLATION	MESSAGE ID	CREATED	SAT 1 ID	SAT 1 NAME	SAT 2 ID	SAT 2 NAME	TCA	PC	MIN. RING
SAMPLE ORGANIZATION	05383_conj_22623_2015171041615_1651007081282	2024-05-22 20:45:10.000000	1971-067D	MUSKETBALL	1993-023B	SPARTAN 201	2024-05-26 05:49:10.514000	0.000000051894	9900
SAMPLE ORGANIZATION	05383_conj_22623_2015167211067_161112758991	2024-05-21 19:45:10.000000	1971-067D	MUSKETBALL	1993-023B	SPARTAN 201	2024-05-26 05:45:10.292000	0.000000062323	863
SAMPLE ORGANIZATION	05383_conj_22623_2015171041616_1660811301239	2024-05-23 21:45:10.000000	1971-067D	MUSKETBALL	1989-062C	SPARTAN 201	2024-05-26 05:47:10.391000	0.0004	26
CONSTELLATION	MESSAGE ID	CREATED	SAT 1 ID	SAT 1 NAME	SAT 2 ID	SAT 2 NAME	TCA	PC	MIN. RING

Showing 1 to 3 of 3 entries

First Previous 1 Next Last

INSTRUCTIONS:

- Mouse over column headers to view associated units.
- CDM Guide

NOTE:

- For conjunction assessment or CDM questions, please e-mail 18 SDO Spaceflight Safety Team at 18SDS.oral.safety@spaceforce.mil or call (888) 685-3533.
- CDMs are archived in Space-Track's database 72 hours after the predicted Time of Close Approach (TCA).

Developed by SAIC under contract to 945-CJF50C. Contact Us

Back to top

The CDM page allows the owner/operator to view CDMs for all the spacecraft linked to their accounts. An owner/operator may have access to multiple organizations. USSPACECOM performs multiple conjunction assessment screenings per day using our catalog and, if provided, also incorporating owner/operator provided ephemeris. We post an average of 650,000 CDMs per day to Space-Track, in support of 780 satellite organizations and over 10,000 active spacecraft. The table you see here displays the key data points of a CDM and highlights events that meet USSPACECOM's emergency reportable criteria.

Operator Panel: CDM

SPACE-TRACK.ORG HOME OPERATOR FILES HELP samplestact@gmail.com Current Time (UTC) 2024-05-24 22:30:57

OPERATOR PANEL

CDM Directory Maneuver Manage Help

CONJUNCTION DATA MESSAGE

Organizations TCA Start Date (UTC)

SAMPLE ORGANIZATION 2024-05-21

Show 10 entries

CONJUNCTION	MESSAGE ID	CREATED
SAMPLE ORGANIZATION	05383_conj_22623_2015171041615_1651007081282	2024-05-21 21:45:18
SAMPLE ORGANIZATION	05383_conj_22623_2015167211067_161112758991	2024-05-21 21:45:18
SAMPLE ORGANIZATION	05383_conj_22623_2015171041615_1650811301239	2024-05-21 21:45:18

Showing 1 to 3 of 3 entries

INSTRUCTIONS:

- Mouse over column headers to view associated units.
- CDM Guide

NOTE:

- For conjunction assessment or CDM questions, please e-mail 18 SDO Spaceflight Safety Team at 18SDS@orbital.safety.mil
- CDMs are archived in Space-Track's database 72 hours after the predicted Time of Close Approach (TCA).

CDM Data:

```

CCSDS_CPM_VERS = 1.0
COMMENT = CPM ID:13000000
CREATION_DATE = 2024-05-21T19:45:18.000000
ORIGINATOR = SPOC - TEST DATA
MESSAGE_FOR = RUSKATBALL
MESSAGE_ID = 05383_conj_22623_2015167211067_161112758991
TCA = 2024-05-26T05:45:18.292000
HSS_DISTANCE = 4863 [m]
RELATIVE_SPEED = 3928 [m/s]
RELATIVE_POSITION_R = -1746.9 [m]
RELATIVE_POSITION_T = -7588.9 [m]
RELATIVE_POSITION_H = -3883.3 [m]
RELATIVE_VELOCITY_R = 3833.8 [m/s]
RELATIVE_VELOCITY_T = -683.3 [m/s]
RELATIVE_VELOCITY_H = -597.1 [m/s]
COLLISION_PROBABILITY = 0.000000062323
COLLISION_PROBABILITY_METHOD = N/A
CURRENT_EFFECTIVE_LHR = 1 [s]
CURRENT_SCREENING_OPTION = Covariance
CURRENT_SCREENING_WITH = unknown state vector type.
OBJECT = 05383
OBJECT_DESIGNATOR = 05383
CATALOG_NAME = SATCAT
OBJECT_NAME = RUSKATBALL
INTERNATIONAL_DESIGNATOR = 1971-0670
OBJECT_TYPE = PAYLOAD
OPERATOR_CONTACT_POSITION = https://www.space-track.org/expandedspacedata/query/class/organization
OPERATOR_ORGANIZATION = NONE
OPERATOR_PHONE = https://www.space-track.org/expandedspacedata/query/class/organization
OPERATOR_EMAIL = https://www.space-track.org/expandedspacedata/query/class/organization
EPHEMERIS_NAME = NONE
COVARIANCE_METHOD = CALCULATED
MANEUVERABLE = N/A
REF_FRAME = ITRF
GRAVITY_MODEL = GSP 96: 120 120
ATMOSPHERIC_MODEL = NONE
N_BODY PERTURBATIONS = MOON,SUN
SOLAR_RAD_PRESSURE = YES
EARTH_TIDES = NO
INTRACK_THRUST = NO
CURRENT_Covariance_Scale_Factor = 1.000000
CURRENT_Exclusion_Volume_Radius = 5.000000 [m]
TIME_LASTSTART = 2023-11-27T19:45:18.000000
TIME_LASTEND = 2024-05-19T19:45:18.000000
RECOMMENDED_CO_SPAN = 18.65 [d]
ACTUAL_CO_SPAN = 18.65 [d]
OBS_AVAILABLE = 178
OBS_USED = 178
TRACKS_AVAILABLE = 0
TRACKS_USED = 0
RESIDUALS_ACCEPTED = 0.08.9 [%]
WEIGHTED_RMS = 0.92 [m]
CURRENT_Apogee_Altitude = 482 [km]
CURRENT_Perigee_Altitude = 478 [km]
CURRENT_Inclination = 38.0 [deg]
CURRENT_OPERATOR_Hard_Body_Radius = 1 [m]
AREA_TC = 77.5640 [m**2]
CD_AREA_OVER_HSS = 0 [m**2/kg]
CT_AREA_OVER_HSS = 0.029318 [m**2/kg]
THRUST_ACCELERATION = 0 [m/s**2]
J2000 = 0 [m/kg]
    
```

Clicking on the Message ID displays the entire CDM – note the fields with red arrows – all of these are populated by the satellite owner/operator, which we'll discuss on a following slide. CDMs are easily viewable through the GUI but the vast majority of operators access them through the API. Just like other data products on the site, CDMs are available in XML, HTML, CSV, KVN and JSON.

Operator Panel: Directory

SPACE-TRACK.ORG

samplestacdt@gmail.com

Current Time (UTC)
2024-05-24 22:32:34

HOME · OPERATOR · FILES · HELP ·

OPERATOR PANEL

CDM Directory Maneuver Manage Help

OPERATOR DIRECTORY

Organizations

SpaceX

LOAD

Object

Sat ID, INTL DES, or Sat Name

SEARCH

Display Entire Directory

SpaceX

LABEL	TYPE	VALUE
Starlink Fleet Operations - backup #1	PHONE	+1 (310) 219-7858
Starlink Fleet Operations - backup #2	PHONE	+1 (425) 602-2201
Starlink Fleet Operations - backup #3	PHONE	+1 (425) 602-8107
Starlink Fleet Operations - backup #4	PHONE	+1 (310) 682-2539
Starlink Operations Email - High Urgency	EMAIL	starlink-fleet-operations@spacex.com
Starlink Operations Phone	PHONE	+ (251) 257-0464

SATELLITE ID	NAME	INT'L DESIGNATOR	STATUS	MANEUVERABLE	VISIBILITY
44713	STARLINK-1007	2019-074A	Active	YES	Public
44714	STARLINK-1008	2019-074B	Active	YES	Public
44715	STARLINK-1009	2019-074C	Active	YES	Public

Developed by SMC under contract to 945-CJFSCC. Contact Us

Back to top

The Operator Directory includes both operator points of contact and spacecraft information. You can retrieve info based on the owner/operator's organization name or the specific satellite. Participation is voluntary and owner/operators can elect to share their info with all other owner/operators or just with USSPACECOM. However, we highly encourage all owner/operators to share their contact information with all other operators to allow for expedient and effective communication on maneuver planning and risk mitigation. The option to share with just USSPACECOM may negatively increase the coordination time required during an emergency, because we must perform an additional step of seeking permission from the other affected owner/operator to share their information.

Operator Panel: Maneuvers

SPACE-TRACK.ORG

[HOME](#)
[OPERATOR](#)
[FILES](#)
[HELP](#)

samplestact@gmail.com
Current Time (UTC)
2024-05-24 22:34:16

[COM](#)
[Directory](#)
[Maneuver](#)
[Manage](#)
[Help](#)

MANEUVER NOTIFICATIONS

Organizations

SAMPLE ORGANIZATION

Start Date (UTC)

2024-05-23 00:00:00

End Date (UTC)

2024-05-26 23:59:59

☒ Show Other Public
 ☐ Show Relevant Predicted/Determined

LOAD MANEUVERS

Maneuvers

Show 10 entries

DOWNLOAD AS CSV

Search All Columns

ID	SCC	NAME	STATUS	START	END	ΔV (km/s)	PURPOSE	TCA	RELEASABILITY
3452571	27811	HS2	PREDICTED	2024-05-23 12:57:17.000000	2024-05-23 12:57:20.000281	0.00000354	SK	0001-01-01 00:00:00.000000	PUBLIC
3434297	29155	GOES 13	PREDICTED	2024-05-24 21:24:33.000000	2024-05-24 21:34:33.000000	0.00000068	DISPOSAL	0001-01-01 00:00:00.000000	PUBLIC
3434296	29155	GOES 13	PREDICTED	2024-05-24 21:14:33.000000	2024-05-24 21:24:33.000000	0.00000068	DISPOSAL	0001-01-01 00:00:00.000000	PUBLIC
3434295	29155	GOES 13	PREDICTED	2024-05-24 20:44:33.000000	2024-05-24 20:54:33.000000	0.00000068	DISPOSAL	0001-01-01 00:00:00.000000	PUBLIC
3434294	29155	GOES 13	PREDICTED	2024-05-24 20:34:33.000000	2024-05-24 20:44:33.000000	0.00000068	DISPOSAL	0001-01-01 00:00:00.000000	PUBLIC
3434293	29155	GOES 13	PREDICTED	2024-05-24 20:04:33.000000	2024-05-24 20:14:33.000000	0.00000068	DISPOSAL	0001-01-01 00:00:00.000000	PUBLIC
3434292	29155	GOES 13	PREDICTED	2024-05-24 19:54:33.000000	2024-05-24 20:04:33.000000	0.00000068	DISPOSAL	0001-01-01 00:00:00.000000	PUBLIC
3434291	29155	GOES 13	PREDICTED	2024-05-24 19:24:33.000000	2024-05-24 19:34:33.000000	0.00000068	DISPOSAL	0001-01-01 00:00:00.000000	PUBLIC
3434290	29155	GOES 13	PREDICTED	2024-05-24 19:14:33.000000	2024-05-24 19:24:33.000000	0.00000068	DISPOSAL	0001-01-01 00:00:00.000000	PUBLIC
3434289	29155	GOES 13	PREDICTED	2024-05-23 21:11:14.000000	2024-05-23 21:21:14.000000	0.00000068	DISPOSAL	0001-01-01 00:00:00.000000	PUBLIC

ID

SCC

NAME

STATUS

START

END

ΔV

PURPOSE

TCA

RELEASABILITY

Showing 1 to 10 of 200 entries

First

Previous

1

2

3

4

5

20

Next

Last

Developed by SAIC under contract to S4S-CJFSCC. Contact Us

Back to top

The Maneuver page allows owner/operators to share their planned maneuvers. Just like the contact information, this is purely voluntary and can be shared with only USSPACECOM or with all other owner/operators. Although these maneuvers are often included in the predictive ephemeris that operators submit, the maneuver page provides an easily readable summary of the maneuver plan in the Orbit Parameter Message format.

Operator Panel: Manage - Members

SPACE-TRACK.ORG

samplestacct@gmail.com
Current Time (UTC)
2024-05-24 22:36:08

HOME · OPERATOR · FILES · HELP ·

OPERATOR PANEL

CDM · Directory · Maneuver · Manage · Help

MANAGE OPERATOR ORGANIZATIONS

Organizations

SAMPLE ORGANIZATION

LOAD

Space-Track Handbook for Operators

SAMPLE ORGANIZATION

Members

Satellites

Contact Information

Data Control

Username

Single Username or Email address

Privilege

CDM Notification
View CDM online

SAVE

Name

Email

Privileges

Sample, User

samplestacct@gmail.com

CDM Notification,Primary Representative,View CDM online

EDIT

DELETE

INSTRUCTIONS:

- When adding a new member, a selection from the Privileges selection box must be made to successfully create the Member entry.
- Granting a user 'CDM Notification' privileges automatically grants them 'View CDM Online' privileges.
- To edit a line item, select one from the list and click 'edit'. When the page re-loads, change which fields you like in the editable fields above and click 'save'.
- When entering an Email or Username remember they must match exactly.
- Only group members may be deleted from an Organization. Primary representatives may have other privileges revoked but cannot be deleted.

f

t

Developed by SAIC under contract to S4S-CJFS0C. Contact Us

Back to top

We designed this section of the website to allow owner/operators to easily manage access to their satellite information. One Primary Representative is designated for each organization, who can add and remove members from CDM access, and manage satellite and contact information. On this page, the Primary Representative can add and remove users from CDM access, and control whether they receive notifications for new CDMs or have view-only access.

Operator Panel: Manage - Satellites

The screenshot shows the 'Operator Panel: Manage - Satellites' interface on the Space-Track.org website. The top navigation bar includes 'HOME', 'OPERATOR', 'FILES', and 'HELP'. The user is logged in as 'samplestacct@gmail.com' with the current time (UTC) of 2024-05-24 22:36:44. The main section is titled 'MANAGE OPERATOR ORGANIZATIONS' and features a search bar for 'SAMPLE ORGANIZATION' with a 'LOAD' button. Below this, there are tabs for 'SAMPLE ORGANIZATION', 'Members', 'Satellites', 'Contact Information', and 'Data Control'. A note states: 'Note: Only an Organization's Primary Representative can modify satellite attributes.' The 'Satellites' tab is active, displaying a table of satellites. The table has columns: 'NORAD CAT ID', 'Object Name', 'Hard Body Radius', 'Directory Visibility', 'Status', 'Maneuverable', and 'Edit'. One satellite is listed: '5383 MUSKETBALL' with a 'Private' directory visibility and 'Unknown' status. Below the table, there are input fields for 'NORAD CAT ID', 'Object Name', 'Hard Body Radius', 'Directory Visibility', 'Status', and 'Maneuverable'. At the bottom, there is a section titled 'INSTRUCTIONS' with a list of rules for managing satellites. The footer includes social media links and a 'Back to top' button.

SPACE-TRACK.ORG

HOME · OPERATOR · FILES · HELP · samplestacct@gmail.com · Current Time (UTC) 2024-05-24 22:36:44

OPERATOR PANEL

CDM · Directory · Maneuver · Manage · Help

MANAGE OPERATOR ORGANIZATIONS

Organizations

SAMPLE ORGANIZATION LOAD Space-Track Handbook for Operators

SAMPLE ORGANIZATION Members Satellites Contact Information Data Control

Note: Only an Organization's Primary Representative can modify satellite attributes.

Show 10 entries Search All Columns

NORAD CAT ID	Object Name	Hard Body Radius	Directory Visibility	Status	Maneuverable	Edit
5383	MUSKETBALL		Private	Unknown	NO	

NORAD CAT ID Object Name Hard Body Radius Directory Visibility Status Maneuverable

Showing 1 to 1 of 1 entries First Previous 1 Next Last

INSTRUCTIONS:

- Another organization's Hard Body Radius is only visible through a CDM
- An Object is Dead when it cannot perform its mission nor function and cannot be controlled.
- An Object is Maneuverable if it can avoid conjunctions.
- Public Satellites will allow other Owner/Operators to find your organization by searching the Directory.
- Owner/Operators cannot use private satellites to search for your organization.
- To make changes to multiple satellites at a time for large contributions, contact admin@space-track.org for assistance or make use of the API, please visit <https://www.space-track.org/documentation/api>
- Only an Organization's Primary Representative can modify satellite attributes
- A Primary Representative can only update the Hard Body Radius if their Organization has 'Primary' ownership of the satellite.

Developed by SAIC under contract to S4S-CJFSCC. Contact Us

Back to top

This page lists all of the satellites assigned to an owner/operator. Here, the Primary Representative can modify critical information for each satellite. For status, select unknown, active, or dead. For maneuverability, select yes or no. For Hard Body Radius, a numerical value should be inputted. All of this information can be designated as "Private" which means it is only shared with USSPACECOM. The other option is to designate the information as "Public," to share with all other owner/operators. If designated as "Public," the information will display in the CDM, as seen on the CDM page. We encourage all owner/operators to select "public," because this accelerates information exchange between satellite operators, enabling more educated and effective maneuver planning.

Operator Panel: Manage – Contact Information

SPACE-TRACK.ORG

HOME • OPERATOR • FILES • HELP

samplestact@gmail.com • Current Time (UTC) 2024-05-24 22:38:18

OPERATOR PANEL

CDM Directory Manuever **Manage** Help

MANAGE OPERATOR ORGANIZATIONS

Organizations

SAMPLE ORGANIZATION [LOAD](#) [Space-Track Handbook for Operators](#)

SAMPLE ORGANIZATION Members Satellites **Contact Information** Data Control

Label	Type	Value	Visibility	
Contact Info Entry Name	PHONE	Phone, Email, or Fax, etc.	PUBLIC	SAVE
CA1	CLOSE_APPROACH	samplestact@gmail.com	PRIVATE	EDIT DELETE

INSTRUCTIONS:

- To edit a line item, select one from the list above and click 'EDIT'.
- When writing a label, ensure that the name is unique and not already in use.
- Acceptable values: Alphanumeric (A-Z, 0-9, #, -, ., \$, and _)
- Contact Info Labels must be no more than 40 characters long
- Contact Info Values must be no more than 50 characters long

Developed by SASC under contract to S4S-CJFSDC. Contact Us

[Back to top](#)

On the Contact Information page, the Primary Representative can share a variety of information on their organization, as seen in the drop-down menu. All of this information is displayed in the Operator Directory. Additionally, if the Primary Representative designates their information as “Public,” it will be available in the CDM as a hyperlink to the Directory. In addition to CDMs, USSPACECOM will also send close approach notification emails to owner/operators if they input contact information under the ‘CLOSE_APPROACH’ category. The close approach notification contains the key components of the CDM, such as miss distance, probability of collision, and time of closest approach, with a hyperlink to the full CDM on the website.

Files Panel

The screenshot shows the 'Files Panel' on the Space-Track.org website. The interface has a dark theme with a blue header bar. The header bar contains the 'SPACE-TRACK.ORG' logo on the left and a user profile section on the right showing 'samplestact@gmail.com' and 'Current Time (UTC) 2024-05-24 22:48:09'. Below the header, there is a navigation menu with tabs: 'HOME', 'OPERATOR', 'FILES' (which is active), and 'HELP'. Under the 'FILES' tab, there are sub-tabs: 'DOWNLOAD' and 'UPLOAD'. The 'UPLOAD' sub-tab is selected, and it contains a list of links: 'Welcome', 'Box Score', 'SATCAT', 'y Builder', 'Favorites', 'ELSET Search', 'Recent ELSETs', 'SSR', 'Conjunctions', 'Public Files', and 'Space Ops Tempo'. The main content area is divided into three columns. The left column is titled 'ELEMENT SET (ELSET) DATA' and lists links for 'Retrieve ELSET Data by Satellite Catalog Number', 'Bulk Catalog Data Downloads', 'TLE Format Description', and 'CCSDS OMM Standard'. The middle column is titled 'SATELLITE CATALOG (SATCAT) DATA' and lists links for 'Satellite Box Score (API)', 'Satellite Search', 'Catalog Change Report - new parts 4 & 5 of the SSR', 'Geosynchronous Report (API)', and 'Satellite Situation Report'. The right column is titled 'SATELLITE DECAY & REENTRY DATA' and lists links for 'Satellite Decay, Predictions, and ITT Messages' and 'Search the SATCAT by Satellite Decay Date'. To the right of the main content area, there is a 'RESOURCES' section with links to 'NASA Spacecraft Conjunction Assessment and Collision Avoidance Best Practices Handbook', 'Spaceflight Safety Handbook', 'Launch Collision Avoidance Handbook', 'Satellite Registration Form', and 'Data & Support Requests'. Below the resources, there is a 'MY ACCOUNT' section with links for 'My Profile', 'Change Password', 'Change Theme', and 'My Favorites'. The background of the page features a faint image of a satellite in orbit around Earth. At the bottom of the page, there is a footer with the URL 'https://www.space-track.org/files' and a 'Back to top' link.

The Files Panel is where satellite operators may submit their maneuver information and ephemeris for conjunction assessment screening, and download additional data products.

Files Panel: Upload

The screenshot shows the 'FILES' section of the Space-Track.org website. The top navigation bar includes 'HOME', 'OPERATOR', 'FILES', and 'HELP'. The user is logged in as 'samplestact@gmail.com' and the current time is '2024-05-24 22:56:53 (UTC)'. The 'FILES' section has 'Download' and 'Upload' tabs, with 'Upload' being the active tab. Below the tabs is the 'UPLOAD FILES' section, which includes a 'CHOOSE FILES' button and a text prompt: 'Select files for upload by clicking the "CHOOSE FILES" button above'. There is a 'Destination' dropdown menu set to 'Ephemeris/OurOrganization' and an 'UPLOAD' button. Below this is a table titled 'My Uploads (last 30 days):'. The table has columns for 'File Path', 'File Name', and 'Uploaded'. The table is currently empty, displaying 'No data available in table'. Below the table, it says 'Showing 0 to 0 of 0 entries'. At the bottom of the page, there are 'INSTRUCTIONS' for uploading files, including a maximum of 100 files per upload and a maximum total size of 512 MB. The footer includes social media icons for Facebook and Twitter, and a link to 'Contact Us'.

SPACE-TRACK.ORG

HOME • OPERATOR • FILES • HELP

samplestact@gmail.com • Current Time (UTC) 2024-05-24 22:56:53

FILES

Download Upload

UPLOAD FILES

CHOOSE FILES

Select files for upload by clicking the "CHOOSE FILES" button above

Destination: Ephemeris/OurOrganization [UPLOAD]

My Uploads (last 30 days):

Show 10 entries Search All Columns

File Path	File Name	Uploaded
No data available in table		

File Path File Name Uploaded

Showing 0 to 0 of 0 entries

First Previous Next Last

INSTRUCTIONS:

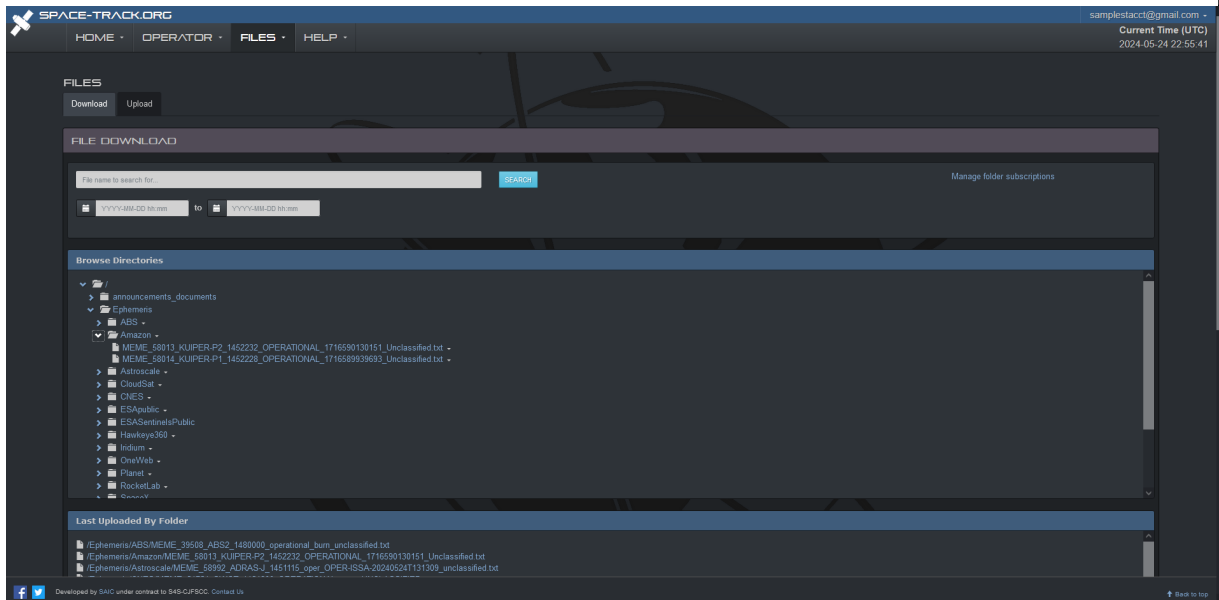
- Maximum number of files in a single upload is 100. Maximum total size per upload is 512 MB.
- Click "Choose Files" and select one or more files to upload. After you select files, you can collapse the file list by clicking on the down arrow.
- If there are errors with the files you have selected, the Upload button will be disabled.
- Choose the appropriate destination to upload to.

Developed by SAIC under contract to S4S-CJFSCC. Contact Us

Back to top

During the satellite registration process, USSPACECOM will create an ephemeris folder and maneuver folder for the owner/operator. The owner/operator should upload their ephemeris to this folder, where it will be automatically transmitted to USSPACECOM for screening. After screening, the resultant CDMs will be posted to Space-Track on the Operator Panel's CDM page. Satellite operators may also upload maneuver information, which will be displayed on the Operator Panel's Maneuver page. For the most part, these folders are only accessible by the Organization and USSPACECOM, however on the next slide we'll see a few exceptions. While this GUI offers a convenient way to upload files, most satellite operators use the API to automate their uploads.

Files Panel: Download



After uploading their files, the owner/operator may view their files in their folders on the Download page. Several satellite operators have elected to share their ephemeris directly with all other satellite operators, which is why you see folders for many other organizations. This is another way to increase transparency across the satellite operator community, and allow for direct communication and data exchange.

Questions?

Contact us at:
SPACEOffice@space-track.org

Thank you very much for your attention today – although this was a rather high-level overview of what Space-Track provides for satellite operators and all registered Space-Track users, we hope we leave you today with a better understanding of the immense amount of data we have to offer and its critical role in global spaceflight safety. We're happy to take questions.

1. How does an operator sign up for conjunction assessment services?
 - a. Two things are required. First, the owner/operators of the spacecraft should sign up for basic accounts on Space-Track.org. Next, they should submit a satellite registration form to USSPACECOM, ideally before the spacecraft is launched, but it can be submitted any time. If the form is completely filled out, it will provide all the information we need to set up the owners/operators for conjunction assessment services once the satellite launches.
2. What can a satellite operator do to improve the tracking of their object?
 - a. There three important things an owner/operator can do. First, design the spacecraft to be a size of 1U – 10cm squared – or larger. This is the minimum size that can be reliably tracked by the US Space Surveillance Network. Next, complete and submit the satellite registration form to USSPACECOM prior to launch. This helps us with initial characterization and identification of your object. Finally, we highly recommend that you submit predictive ephemeris to Space-Track for your spacecraft on a routine basis. In addition to using this data for conjunction assessment screenings, we also use it as reference data to update the spacecraft's orbit in our database, which improves the quality of the element sets and conjunction data messages we generate.