

## **Changes to the April 13, 2009 release of the UCS Satellite Database**

This version of the database includes launches through April 1, 2009.

The changes to this version of the database include:

- The addition of 21 satellites
- The deletion of 41 satellites
- The addition of and corrections to some satellite data

The relatively large number of satellites removed in this update does not reflect a surge in satellite failures. Instead, we had suspected many of these satellites were no longer operational, but only recently found enough sources to confirm it.

Nota bene: the Iranian satellite Omid was launched after the last update and became inactive before this update, so it never appears in the UCS Satellite Database.

### **Satellites Added:**

NROL-26 [USA 202] – 2009-001A  
Ibuki [GOSat) – 2009-002A  
Prism – 2009-002B  
SDS-1 – 2009-002C  
Kagayaki –2009-002D  
SOHLA 1 – 2009-002E  
SpriteSAT – 2009-002F  
Kukai – 2009-002G  
KKS-1 – 2009-002H  
Koronas-Foton – 2009-003A  
NOAA-19 – 2009-005A  
Express-AM44 – 2009-007A  
Express-MD1 – 2009-007B  
NSS-9 – 2009-008A  
Hot Bird 10 – 2009-008B  
SPIRALE-A – 2009-008C  
SPIRALE-B – 2009-008D  
Telstar 11N – 2009-009A  
Radula 1 [Cosmos 2450] – 2009-10A  
GOCE – 2009-013A  
Navstar GPS 49 [USA 203] – 2009-014A

### **Satellites Deleted:**

UoSat-2 [Oscar 11] – 1984-021B  
SLDCOM-1 [USA 59] – 1990-050A  
SB-WASS 2-1 [USA 60] – 1990-050B  
SB-WASS 2-1 [USA 61] – 1990-050C  
SB-WASS 2-1 [USA 62] – 1990-050D

LaCrosse/Onyx 2 [USA 69] – 1991-017A  
Intelsat 605 – 1991-055A  
Tubsat-A – 1991-050D  
SLDCOM-2 [USA 72] – 1991-076A  
Navstar GPS-35 [USA 94] – 1993-054A  
PoSat-1 [Oscar 28] – 1993-061D  
DirecTV-1 – 1993-078A  
Orbcomm FM1 – 1995-017A  
Orbcomm FM2 – 1995-017B  
Gorizont-44 -- 1996-034A  
SDS-II-3 [USA 125] – 1996-038A  
Iridium 33 – 1997-051C  
Iridium 28 – 1997-051E  
LaCrosse/Onyx 3 [USA 133] – 1997-064A  
Astra 5A – 1997-071A  
Orbcomm FM3 – 1998-007B  
Strela-3 [Cosmos 2352] – 1998-036A  
Strela-3 [Cosmos 2353] – 1998-036B  
Strela-3 [Cosmos 2354] – 1998-036C  
Strela-3 [Cosmos 2355] – 1998-036D  
Strela-3 [Cosmos 2356] – 1998-036E  
Strela-3 [Cosmos 2357] – 1998-036F  
Orbcomm FM17 – 1998-046A  
Orbcomm FM26 – 1998-053F  
Orbcomm FM28 – 1998-053H  
WavSat-2 [UoSat-12] – 1999-021A  
Orbcomm FM32 – 1999-065C  
Multispectral Thermal Imager – 2000-014A  
Meteor-3M-N1 – 2001-056A  
Nadezhda 7 [COSPAS 10] – 2002-046A  
KazSat 1 – 2006-022A  
PehuenSat-1 [Oscar 63] – 2007-001D  
CP-4 – 2007-012Q  
CSTB-1 – 2007-012R  
Persona N1 [Cosmos 2441] – 2008-037A  
Kobalt-M [Cosmos 2445] – 2008-058A

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### **Changes to the January 21, 2009 release of the UCS Satellite Database**

This version of the database includes launches through January 1, 2009.

The Database page has been newly organized for easier navigation, and it has several new features, including some analysis:

- a **Satellite Quick Facts** box, giving current satellite counts, updated quarterly, and
- a **Quick Facts & Analysis** page, explaining the derivation of the **Satellite Quick Facts** and answering some more in-depth questions, updated occasionally

Also new to the Database page are:

- a **Quick Guide to Using the Database**, a how-to for several basic database tasks
- a **Featured Satellite**, detailing one of the interesting active satellites in the database, updated quarterly
- a link to the new **Space Age Trivia** page, highlighting interesting facts about space, past and present, updated quarterly

The other changes to this version of the database include:

- a reorganization of the orbital information into columns with “Class of Orbit,” e.g., *LEO*, and “Type of Orbit,” e.g., *Sun-Synchronous*. All GEO longitude information has been moved to the column “Longitude of GEO”
- The addition of 20 satellites
- The deletion of 14 inactive satellites
- The addition of and corrections to some satellite data
- The updating of the orbital information for the GEO satellites

### **Satellites Added:**

THEOS (Thailand Earth Observation System) – 2008-049A

Interstellar Boundary Explorer (IBEX) – 2008-051A

Shijian 6E – 2008-053A

Shijian 6F – 2008-053B

COSMO-SkyMed 3 – 2008-054A

VeneSat-1 – 2008-055A

Shiyuan 3 – 2008-056A

Chuangxin 2 – 2008-056B

Astra 1M – 2008-057A

Kobalt M [Cosmos 2445] – 2008-058A

Yaogan-4 – 2008-061A

Cosmos 2446 – 2008-062A

Ceil-2 2008-063A

Yaogan 5 – 2008-064A

Hot Bird 9 – 2008-065A

Eutelsat W2M – 2008-065B

Fengyun 2E – 2008-066A

Glonass 727 [Cosmos 2447] -- 2008-067A

Glonass 728 [Cosmos 2448] -- 2008-067B

Glonass 729 [Cosmos 2449] -- 2008-067C

### **Satellites Removed:**

Marisat-F2 – 1976-101A  
TDRS-1 – 1983-026B  
Orion/Magnum 3 [USA 67] – 1990-097B  
DSP-16 [USA 72] – 1991-080B  
Gorizont-40 – 1993-069A  
DSP-17 [USA 107] – 1994-084A  
KH-12-4 [USA 129] – 1996-072A  
Chinasat-6 – 1997-021A  
Thor-2 – 1997-025A  
BSAT-1B – 1998-024B  
UFO-9 [USA 140] – 1998-058A  
Glonass 796 [Cosmos 2411] – 2004-053C  
NigComSat-1 – 2007-018A  
DSP-23 [USA 197] – 2007-054A

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### **Changes to the October 6, 2008 release of the UCS Satellite Database**

This version of the database includes launches through October 1, 2008.

The changes to this version of the database include:

- The addition of 22 satellites
- The deletion of 15 inactive satellites
- The addition of and corrections to some satellite data

#### **Satellites Added:**

Protostar 1 – 2008-034A  
Badr 6 – 2008-034B  
Echostar 11 – 2008-035A  
Sar Lupe 5 – 2008-036A  
Persona-N1 [Cosmos 2441] – 2008-037A  
Superbird 7 – 2008-038A  
AMC 21 – 2008-038B  
INMARSAT 4F3 – 2008-039A  
RapidEye-A – 2008-040A  
RapidEye-B – 2008-040B  
RapidEye-C – 2008-040C  
RapidEye-D – 2008-040D  
RapidEye-E – 2008-040E  
HJ-1A [Huan Jing 1A] – 2008-041A  
HJ-1B [Huan Jing 1B] – 2008-041B  
GeoEye-1 – 2008-042A  
Nimiq 4 – 2008-044A  
Galaxy 19 – 2008-045A  
Glonass 724 [Cosmos 2442] – 2008-046A

Glonass 725 [Cosmos 2443] – 2008-046B  
Glonass 726 [Cosmos 2444] – 2008-046C  
Theos – 2008-049A

**Satellites Removed:**

Telstar 11 – 1994-079A  
Milstar DFS-2 – 1995-060A  
NStar-B – 1996-007A  
Echostar 2 – 1996-055A  
Badr C – 1997-046A  
BSat-1B – 1998-024B  
Molniya 1-91 – 1998-054A  
Intelsat 6B – 1998-075A  
Yamal-102 – 1999-047B  
Galaxy 11 – 1999-071A  
Galaxy 10R – 2000-002A  
Milstar DFS-5 – 2002-001A  
Molniya 1-93 – 2004-005A  
Superbird-6 – 2004-011A  
Glonass 797 [Cosmos 2412] – 2004-053B

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**Changes to the July 8, 2008 release of the UCS Satellite Database**

This version of the database includes launches through July 1, 2008.

The changes to this version of the database include:

- The addition of 34 satellites
- The deletion of 17 inactive satellites
- The addition of and corrections to some satellite data

**Satellites Added:**

ICO G1 – 2008-016A  
C/NOFS (Communication/Navigation Outage Forecasting System) – 2008-017A  
Vinasat 1 – 2008-018A  
Star One C2 – 2008-018B  
TianLian 1 – 2008-019A  
GIOVE-B – 2008-020A  
CartoSat 2A – 2008-021A  
CAN-X6 – 2008-021B  
Cute 1.7 + APD II – 2008-021C  
IMS-1 – 2008-021D  
Compass-1 – 2008-021E  
AAUSat-2 – 2008-021F  
Delfi-C3 – 2008-021G

CAN-X2 – 2008-021H  
SEEDS 2 – 2008-021J  
Amos-3 – 2008-022A  
Galaxy 18 – 2008-024A  
Yubileiny – 2008-025A  
Cosmos 2437 – 2008-025A  
Cosmos 2438 – 2008-025B  
Cosmos 2439 – 2008-025C  
Fengyun 3A – 2008-026A  
Zhongxing 9 – 2008-028A  
GLAST – 2008-029A  
Skynet 5C – 2008-030A  
Turksat 3A – 2008-030B  
Orbcomm QL1 – 2008-031A  
Orbcomm QL2 – 2008-031B  
Orbcomm QL3 – 2008-031C  
Orbcomm QL4 – 2008-031D  
Orbcomm QL5 – 2008-031E  
Orbcomm CDS 3-1 – 2008-031F  
Jason 2 – 2008-032A  
Cosmos 2440 – 2008-033A

**Satellites Removed:**

ATS-3 – 1967-111A  
SBS-6 – 1990-091A  
SB-WASS 2-2 (USA 74) – 1991-076C  
SB-WASS 2-2 (USA 76) – 1991-076D  
SB-WASS 2-2 (USA 77) – 1991-076E  
Navstar GPS 32 – 1992-079A  
Navstar GPS 29 – 1992-089A  
Navstar GPS 37 – 1993-032A  
Polar – 1996-013A  
SB-WASS 2-3 (USA 121) – 1996-029C  
SB-WASS 2-3 (USA 119) – 1996-029D  
SB-WASS 2-3 (USA 120) – 1996-029E  
Skynet 4D – 1998-002A  
Thuraya 1 – 2000-066A  
CHIPSat – 2003-002B  
EORSAT (Cosmos 2421) – 2006-026A  
AMC-14 – 2008-011A

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**Changes to the April 7, 2008 release of the UCS Satellite Database**

This version of the database includes launches through April 1, 2008

The changes to this version of the database include:

- The addition of 10 satellites
- The deletion of 9 inactive satellites
- The addition of a column denoting the longitude for GEO satellites
- The addition of and corrections to some satellite data

**Satellites Added:**

Thuraya 3 – 2008-001A  
TecSAR – 2008-002A  
Express AM-33 – 2008-003A  
Thor 2R – 2008-006A  
Kizuna (WINDS – 2008-007A  
NROL-28 (USA 200) – 2008-010A  
AMC 14 – 2008-011A  
Navstar GPS 48 – 2008-012A  
DirectTV-11 – 2008-013A  
SAR-Lupe 4 – 2008-014A

**Satellites Deleted:**

Kompsat-1 – 1999-070A  
CHAMP – 2000-039B  
Glonass-789 – 2001-053B  
Fedsat – 2002-056B  
Glonass-792 – 2002-060B  
Quakesat – 2003-031F  
Glonass-798 – 2005-050C  
Tacsat-2 – 2006-058A  
CP-3 – 2007-012M

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**Changes to the January 7, 2008 release of the UCS Satellite Database**

This version of the database includes launches through December 31, 2007

The changes to this version of the database include:

- The addition of 28 satellites
- The deletion of 11 inactive satellites
- The addition of and corrections to some satellite data

**Satellites Added:**

Optus D2 (2007-044A)  
Intelsat 11 (2007-044B)  
WGS F1 [USA 195] (2007-046A)  
Navstar GPS 55 [GPS 2R-17, USA 196] (2007-047A)  
Globalstar MO67 (2007-048A)  
Globalstar MO70 (2007-048B)

Globalstar MO66 (2007-048C)  
Globalstar MO68 (2007-048D)  
US-KS Oko 88 [Cosmos 2430] (2007-049A)  
Glonass 718 [Cosmos 2431] (2007-052A)  
Glonass 719 [Cosmos 2432] (2007-052B)  
Glonass 720 [Cosmos 2433] (2007-052C)  
SAR-Lupe 3 (2007-053A)  
DSP-23 [USA 197] (2007-054A)  
Yaogan 3 (2007-055A)  
Star One C1 (2007-056A)  
Skynet 5B (2007-056B)  
Sirius 4 (2007-057A)  
Raduga 1-8 [Cosmos 2434] (2007-058A)  
COSMO-Skymed 2 (2007-059A)  
SDS III-6 [NROL-24, Scorpius, USA 198] (2007-060A)  
Radarsat-2 (2007-061A)  
Navstar GPS 57 [GPS 2R-18, USA 199] (2007-062A)  
RASCOM-QAF 1 (2007-063A)  
Horizons 2 (2007-063B)  
Glonass 721 [Cosmos 2435] (2007-065A)  
Glonass 722 [Cosmos 2436] (2007-065B)  
Glonass 723 [Cosmos 2437] (2007-065C)

**Satellites Deleted:**

NATO-4A (1991-001A)  
DirecTV-2 [Nimiq 4i] (1994-047A)  
FUSE (1999-035A)  
Molniya 3-49 (1998-040A)  
Molniya 3-50 (1999-036A)  
Tselina-2 [Cosmos 2369] (2000-006A)  
Molniya 3-51 (2001-030A)  
Nadezhda-6 [COSPAS-9] (2000-033A)  
HETE-2 (2000-061A)  
Molniya 3-52 (2001-050A)  
Double Star 1 [TC-1] (2003-061A)

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**Changes to the September 27, 2007 release of the UCS Satellite Database**

This version of the database includes launches through September 25, 2007

The changes to this version of the database include:

- The addition of 12 satellites
- The deletion of 14 inactive satellites
- The addition of and corrections to some satellite data



**Satellites Added:**

SB-WASS 3-4 [USA 194, NRO L30] (2007-027A)  
SB-WASS 3-4 [USA 194, NRO L30] (2007-027C)  
Cosmos-2428 (2007-029A)  
SAR-Lupe 2 (2007-030A)  
ChinaSat 6B (2007-031A)  
DirecTV 10 (2007-032A)  
Spaceway-3 (2007-036A)  
BSAT-3A (2007-036B)  
INSAT-4CR (2007-037A)  
Parus-97 [Cosmos 2429] (2007-038A)  
Worldview 1 (2007-041A)  
CBERS-2B (2007-042A)

**Satellites Deleted:**

GOES-7 [GOES-H] (1987-022A)  
NOAA-12 (1991-032A)  
Gorizont-37 [Gorizont 26] (1992-043A)  
GOES-9 [GOES-J] (1995-025A)  
JAS-2 [Fuji-Oscar 29] (1996-046B)  
HALCA (1997-005A)  
IMAGE (2000-017A)  
Orbview-3 (2003-030A)  
Gravity Probe B (2004-014A)  
HitSat (2006-041D)  
NextSat (2007-006C)  
Orbital Express 1A (2007-006A)  
Libertad-1 (2007-012N)  
Cosmos-2427 [Kobalt M] (2007-022A)

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**Changes to the April 9, 2007 release of the UCS Satellite Database**

This version of the database includes launches through April 6, 2007

The changes to this version of the database include:

- The addition of 18 satellites
- The deletion of 16 inactive satellites
- The addition of and corrections to some satellite data

**Satellites Added:**

LAPAN-Tubsat (2007-001A)  
CartoSat 2A (2007-001B)  
PehuenSat 1 (2007-001D)  
THEMIS 1 (2007-004A)  
THEMIS 2 (2007-004B)

THEMIS 3 (2007-004C)  
THEMIS 4 (2007-004D)  
THEMIS 5 (2007-004E)  
IGS 3B (2007-005A)  
IGS 4A (2007-005B)  
ASTRO [part of Orbital Express] (2007-006A)  
MIDStar 1 (2007-006B)  
NextSat/CSC [part of Orbital Express] (2007-006C)  
STPSat-1 (2007-006D)  
FalconSat 3 (2007-006E)  
CFESat (2007-006F)  
INSAT-4B (2007-007A)  
Skynet-5A (2007-007B)

**Satellites Deleted:**

Navstar GPS 15 (1990-088A)  
Gorizont 36 (1992-017A)  
Optus B1 (1992-054A)  
Satcom-C4 (1992-057A)  
DMSP F12 (1994-057A)  
JCSat 3 (1995-043A)  
Thaicom-3 (1997-016A)  
Iridium 36 (1997-056C)  
Sapphire (2001-043D)  
Cosmos 2388 (2002-017A)  
IGS-1B (2003-009B)  
Streak [STP-R1] (2005-037A)  
Cute-1.7 (2006-005C)  
Space Technology 5A (2006-008A)  
Space Technology 5B (2006-008B)  
Space Technology 5C (2006-008C)

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**Changes to the January 4, 2007 release of the UCS Satellite Database**

This version of the database includes launches through December 27, 2006

The changes to this version of the database include:

- The addition of 27 satellites
- The deletion of 11 inactive satellites
- The addition of and corrections to some satellite data

**Satellites Added:**

IGS-3A (Information Gathering Satellite 3A) – 2006-037A  
Zhongxing 22A – 2006-038A  
Hinode (Solar B) – 2006-041A  
HitSat (Oscar 59) – 2006-041B

Navstar 52 (USA 190) – 2006-042A  
DirecTV-9S – 2006-043A  
Optus D1 – 2006-043B  
MetOp-A – 2006-044A  
Shijian 6C – 2006-046A  
Shijian 6D – 2006-046B  
XM-4 – 2006-049A  
DMSP 5D-3 F17 (USA 191) – 2006-050A  
Arabsat 4B – 2006-051A  
Navstar 58 (USA 192) – 2006-052A  
Fengyun-2D – 2006-053A  
WildBlue-1 – 2006-054A  
Americom-18 – 2006-054B  
Measat-3 – 2006-056A  
NROL-21 (USA 193) – 2006-057A  
TacSat-2 – 2006-058A  
GeneSat-1 – 2006-058B  
SAR-Lupe 1 – 2006-060A  
Meridian 1 – 2006-061A  
Glonass (Cosmos 2424) – 2006-062A  
Glonass (Cosmos 2425) – 2006-062B  
Glonass (Cosmos 2426) – 2006-062C  
CoRoT (Convection, Rotation des Étoiles et Transits des Planètes Extrasolaires) – 2006-063A

**Satellites Deleted:**

Intelsat 604 – 1990-056A  
UoSat-5 (Oscar 22) – 1991-050B  
Hispasat 1B – 1993-048A  
Amrad (Oscar 27) – 1993-061C  
N Star A – 1995-044A  
DirecTV-6 (Tempo 2) – 1997-011A  
Techsat 1B (Oscar 32) – 1998-043D  
Raduga 1-6 (Globus) – 2001-045A  
Tiungsat-1 (Oscar 46) – 2000-057A  
MicroLabSat – 2002-056D  
Shenzhou 6 – 2005-040A

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**Changes to the September 21, 2006 release of the UCS Satellite Database**

This version of the database includes launches through September 10, 2006

The changes to this version of the database include:

- The addition of 14 satellites
- The deletion of 7 inactive satellites

- The addition of and corrections to some satellite data

**Satellites Added:**

Resurs DK-1 – 2006-021A

KazSat 1 – 2006-022A

Galaxy 16 – 2006-023A

MITEX (Micro-Satellite Technology Experiment, USA 187) – 2006-024A

MITEX (Micro-Satellite Technology Experiment, USA 188) – 2006 -024B

EORSAT (Cosmos 2421) – 2006-026A

NROL-22 (USA 184) – 2006-027A

Genesis-1 – 2006-029A

Oko-87 (Cosmos 2422) – 2006-030A

Kompsat 2 – 2006-031A

Hot Bird 8 – 2006-032A

JCSat 10 – 2006-033A

Syracuse 3B – 2006-033B

KoreaSat 5 – 2006-034A

**Satellites Deleted:**

Astra-1B – 1991-015A

Eutelsat II-F2 – 1991-003B

Nadezhda 1 (COSPAS 4) – 1989-050a

Kobalt-M (Cosmos 2420) – 2006-017A

Galaxy 1R – 1994-013A

Esiafi-1 – 1981-018A

Raduga 1-4 – 1999-010A

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**Changes to the June 19, 2006 release of the UCS Satellite Database**

This version of the database includes launches through June 15, 2006.

The changes to this version of the database include:

- The addition of 19 satellites
- The deletion of 14 inactive satellites
- The addition of and corrections to some satellite data

We have also added a tab-delimited text version in which the “Name” column contains only the official name of the satellite in the case of government and military satellites, and the most commonly used name in the case of commercial and civil satellites. This file is called “UCS\_Satellite\_Database\_officialname\_6-19-06.txt”.

And we have added some supporting materials which can be accessed from [http://ucsusa.org/satellite\\_database](http://ucsusa.org/satellite_database) : 1) this document listing the changes to the database,

including the names of the satellites added and deleted, and 2) a brief note addressing some of the common misconceptions about the database and its contents.

**Satellites Added:**

Space Technology 5-A (ST5-A) - 2006-008A  
Space Technology 5-B (ST5-B) - 2006-008B  
Space Technology 5-C (ST5-C) - 2006-008C  
JCSAT 9 – 2006-010A  
COSMIC-A – 2006-011A  
COSMIC-B – 2006-011B  
COSMIC-C – 2006-011C  
COSMIC-D – 2006-011D  
COSMIC-E – 2006-011E  
COSMIC-F – 2006-011F  
Astra 1KR – 2006-012A  
EROS B-1 – 2006-014A  
Remote Sensing Satellite 1 (RSS 1) - 2006-015A  
CloudSat – 2006-016A  
Calipso – 2006-016B  
Cosmos 2420 (Kobalt-M) – 2006-017A  
GOES 13 – 2006-018A  
SatMex 6 – 2006-020A  
Thaicom 5 – 2006-020B

**Satellites Deleted:**

Anik E-1 (Telesat 11) - 1991-067A  
Anik E-2 (Telesat 10) - 1991-026A  
DSCS III-F4 (DSCS III A-2, USA 44) – 1989-069B  
DSCS III-FT (DSCS III B-14, USA 78) – 1992-006A  
EORSAT (Cosmos 2405) - 2004-020A  
Eutelsat-II F-3 - 1991-083A  
Express AM11 – 2004-015A  
Gonets D1-8 (Cosmos 2385) – 2001-058B  
Gorizont-43 - 1996-005A  
Inmarsat 2-F3 - 1991-084B  
Newsat-1 (Palapa B2R) - 1990-034A  
Spacenet-4 - 1991-028A  
Telecom 2A - 1991-084A  
UFO-3 (USA 104) – 1994-035A

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**Changes to the March 17, 2006 release of the UCS Satellite Database**

This version of the database includes launches through March 11, 2006.

The new file is named “UCS\_Satellite\_Database\_3-17-06.xls”. In addition, we have posted a tab-delimited text version of the data, named “UCS\_Satellite\_Database\_3-17-06.txt” that can be used in other database programs.

The changes to this version of the database include:

- The addition of 19 satellites
- The deletion of 15 inactive satellites
- The addition of and corrections to some satellite data
- The addition of a column giving the eccentricity of the satellite’s orbit
- The addition of our definition of “active” satellites to the User Guide