



GUIDELINES FOR LONG PRODUCT FILENAMES IN THE IGS

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Document History

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2022-12-06	2.0	<ul style="list-style-type: none"> Updated links in “References” Added (optional) station dependent part to filename (section 2) Added campaign identifiers “DEM” and “TST” (section 2.1) Added solution type identifier “PRD” (section 2.2) Updated list of content types (section 2.4) Changed IONEX file format identifier from “IOX” to “INX” (section 2.5) Added “JSON” as new format identifier (section 2.5) Added “YAML” as new format identifier (section 2.5) Added short version description (section 2.6) Added examples (section 3) Removed section “Adoption Timeline” 	IGS-IC
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		<ul style="list-style-type: none"> • Added “PSD” as new content type identifier (section 2.4) • Added examples for DSC and PSD products (section 3) 	P. Rebischung M. Bradke
2025-02-01	2.2	<ul style="list-style-type: none"> • Added “Pnu” as new solution type identifier (section 2.2) • Added example for accumulated BIA product (section 3) 	S. Schaer A. Krankowski M. Bradke

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1 Introduction

As part of the evolution of the IGS it is deemed necessary to adapt the product names to using longer designations rather than the 8.3 names inherited from initial OS naming limitations.

To this effect it was unanimously agreed at the IGS Governing Board Meeting 48 after the 2017 IGS Workshop in Paris, France that the following naming scheme be adopted by all Analysis Centers, starting with the Multi-GNSS Pilot Project (MGEX) product files.

Additionally, at the IGS Analysis Center Workshop in Potsdam in April 2019 the attendees agreed without objection the long names defined below for start of use with the reprocessing 3 campaign (repro3) products, including the test solutions.

The long product filenames are applicable to all IGS products with the switch to repro3 standards in the operational processing.

2 Product Filenames

This new file naming allows for a proper distinction of legacy and MGEX products for the different product lines (ultra-rapid, rapid, and final products). The file name is all in upper case and composed of different fields providing information about Analysis Center, product version, campaign/project, product type, start epoch, sampling, content type, and format. For station-dependent solutions an additional but optional station identifier (9-character station name) has been specified (adopted from Pacione and Dousa (2019)). All logical fields are separated by an underscore (“_”).

AAAVPPPTTT_YYYYDDDHMM_LEN_SMP_[SSSSMRCCC_]CNT.FMT[.gz]

Field	Length	Content
AAA	3 characters	Analysis Center/Combination abbreviation; e.g., COD, EMR, ESA, GFZ, GRG, IGS, JAX, JPL, MIT, NGS, SIO, SHA, WUH, etc.
V	1 character	Version/Solution identifier Specifies a new product line
PPP	3 characters	Campaign/Project specification
TTT	3 characters	Solution type identifier
YYYYDDDHMM	11 digits	Product intended nominal start epoch*
LEN	3 characters	Intended (nominal) product period The longest time unit to be used (e.g., ‘01D’ instead of ‘24H’)* ‘00U’ is allowed for long-term product files
SMP	3 characters	Temporal product sampling resolution The longest time unit to be used (e.g., ‘01H’ instead of ‘60M’) Use ‘00U’ if not applicable/unspecified
CNT	3 characters	Content type

Guidelines for Long Product Filenames in the IGS

[SSSSMRCCC]	9 characters	Station identifier, optional
FMT	3-4 characters	File format
[.gz]		Compression method extension; gzip

* Long-term products exclusively can have start/end epochs as defined in section 2.3.

2.1 Campaign/Project Specifications

The following campaign or project specific values (**PPP**) are currently supported:

- DEM** Demonstration campaign
- MGX** Multi-GNSS Project product
- OPS** Operational IGS product
- R01** Reprocessing Campaign 1
- Rnn** Reprocessing Campaign *nn* (where *nn* is a zero-padded integer)
- TGA** Tide Gauge Benchmark Monitoring (TIGA)
- TST** Test campaign

2.2 Solution Type Identifiers

The following solution type identifiers (**TTT**) are currently supported:

- FIN** Final products*
- NRT** Near-Real Time products (products between **ULT** and **RTS**)
- PRD** Predicted products
- Pnu** Predicted products* (after *nu* of the end of the observation, where *n* is a single-digit integer together with a unit character *u*, e.g., 'P1D'; 'P0D' and 'PRD' should be synonymous and both usable)
- RAP** Rapid products*
- RTS** Real-Time streamed products
- SNX** SINEX Combination product
- ULT** Ultra-rapid products (every 6 hours)

* Definitions as agreed by the relevant IGS Working Group

2.3 Product Period and Sampling Interval

The following abbreviations for specifying the product period (**LEN**) and the sampling interval (**SMP**) are supported:

S	Second
M	Minute
H	Hour
D	Day
W	Week
L	Month
Y	Year

The longest time unit always has to be used (e.g., '01D' instead of '24H'). Only long-term product files without specific lengths can use start/end epochs as **YYYYDDD_YYYYDDD**, instead of start/length (**YYYYDDDDHHMM_LEN**) as all others (e.g., multi-year SINEX solution, accumulated time series of ERPs or biases, etc).

NOTE: For accumulated products (e.g., ERP solutions), the product sampling interval (SMP) can be specified as "00U" (unspecified). For a regularly updated long-term product, the value of the product period (LEN) can also remain unspecified.

2.4 Content Types

The following content types (**CNT**) are currently agreed within the IGS Analysis Centers:

ATT	Attitude information
CLK	Receiver and/or satellite clock parameters
CLS	Summary of clock combination
CMP	Comparison summary files
CRD	Station Coordinates/velocities in SINEX
DSC	Epochs of station position/velocity discontinuities
ERP	Earth rotation parameters
ORB	Satellite orbits
PSD	Post-seismic deformation models in SINEX

- RES** Residuals from daily SINEX combination
- SOL** Variance/covariance information or normal equations in SINEX
- SUM** Summary of orbit or SINEX combination
- TRO** Troposphere ZPD product

The following content types are distinguished for bias products:

- DCB** Differential code biases
- DPB** Differential phase biases
- DSB** Differential signal biases (code and phase)
- OCB** Observable-specific code biases
- OPB** Observable-specific phase biases
- OSB** Observable-specific signal biases (code and phase)

The following content types are distinguished for ionosphere products:

- GIM** Global Ionosphere (TEC) Maps (GIMs)
- ROT** Rate of TEC Index Maps (ROTI Maps)

2.5 File Formats

Currently, the following file formats (**FMT**) are defined:

- BIA** bias SINEX, Schaer (2018)
- CLK** clock RINEX, Ray and Gurtner (2012)
- ERP** IGS ERP format, Kouba and Mirault (1998)
- INX** IONEX ionospheric TEC grid product format, Schaer et al. (1998)
- JSON** JavaScript Object Notation, lightweight data-interchange format (<https://www.json.org>)
- OBX** ORBEX satellite orbit/attitude format, Loyer (2019)
- SNX** Solution INdependent EXchange (SINEX) format, Rothacher and Thaller (2006)
- SP3** Standard Product 3 (SP3) orbit format, Hilla (2016)
- SUM** Summary of the indicated product, combination summary, etc
- TRO** SINEX_TRO product format, Pacione and Dousa (2019)

YAML YAML Ain't Markup Language, human-friendly data serialization language (<https://yaml.org>). Alternatively, **YML** can be used as identifier.

2.6 Short Version

To make latest product releases easily accessible for the community, a short time-invariant version of the long product filename standard has been introduced. It provides information about Analysis Center, product version, campaign/project, product type, and format: **AAVPPPTT.FMT[.gz]**

3 Examples

COD00PSFIN_20173360000_01D_05M_ORB.SP3 denotes a Final Operational orbit file in SP3 format of the CODE analysis center covering one day (day of year 336/2017) with 5 min sampling and uncompressed.

SHA0MGXRAP_20182700000_01D_05M_CLK.CLK.gz denotes a Rapid MGEX clock file in clock RINEX format from the Shanghai Observatory analysis center covering one day (270/2018) with 5 min sampling and gzip compressed.

EUR00PSFIN_20190480000_07D_01H_TR0.SUM denotes a Final EUREF TZD summary file from a weekly combination process. The corresponding TZD values would be in the file **EUR00PSFIN_20190480000_07D_01H_TR0.TR0**.

IGS00PSSNX_1994002_2019159_00U_SOL.SNX denotes the GPS week 2056 release of the operational IGS cumulative SINEX solution (old filename: IGS19P23.snx). The same cumulative SINEX solution, but without covariance matrix (old filename: IGS19P23.ssc), would be called **IGS00PSSNX_1994002_2019159_00U_CRD.SNX**.

IGS00PSSNX_1994002_2019159_00U_DSC.SNX denotes the list of station position/velocity discontinuities associated with that release of the IGS cumulative SINEX solution.

IGS00PSSNX_1994002_2019159_00U_PSD.SNX denotes the post-seismic deformation models associated with that release of the IGS cumulative SINEX solution.

GFZ10PSRAP_20220300900_05M_05M_POTS00DEU_TR0.TR0 denotes a Rapid Operational TZD file processed by the GFZ analysis center and for the IGS station POTS00DEU (Potsdam, Germany). The solution identifier is set to "1", meaning that one resubmission occurred.

COD00PSFIN_20000010000_00U_01L_OCB.BIA denotes an accumulated product file that contains monthly sets of observable-specific code biases (OCB). The file content starts at the beginning of the year 2000 and is expected to be updated regularly (by the CODE analysis center).

IGS00PSULT.SP3 denotes the latest release of an IGS operational Ultra-Rapid file (old filename: igu.sp3). It is a shortened version of the long product filename standard for user convenience.