



S3 Product Notice – Altimetry

Mission	S3-A	
Sensor	SRAL	
Product	L1 NRT, STC and NTC	
Product Notice ID	S3A.PN-STM-L1.05	
Issue/Rev Date	04-April-2018	
Version	1.0	
Preparation	This Product Notice was prepared by the S3 Mission Performance Centre and by ESA and EUMETSAT experts	
Approval	Joint ESA-EUM Mission Management	

Summary

This is a Product Notice for the public release of an upgrade of the Sentinel-3 Surface Topography Mission (STM) Level-1A, Level-1BS and Level-1B products. The Product Notice is applicable to all timeliness: Near Real Time (NRT), Short Time Critical (STC) and Non-Time Critical (NTC), but please note that L1A and L1B-S are only produced in STC and NTC.

The Notice describes the Level-1 current status, product quality and limitations, and product availability status.



Processing Baseline	
Processing Baseline	<ul style="list-style-type: none"> • IPF Processing Baseline: 2.33
IPFs version	<ul style="list-style-type: none"> • SR_1 IPF version: 06.14

Current Operational Processing Baseline		
IPF	IPF Version	In OPE since
SR1	06.14	Land Centres: <ul style="list-style-type: none"> • 04/04/2018 Marine Centre: <ul style="list-style-type: none"> • 04/04/2018



Status of the Processing Baseline

The current processing baseline for the Sentinel-3A L1 products is 2.33, IPF SR-1 version 06.14. The baseline was deployed in the Sentinel-3 processing centres on the following dates:

Installation Date	IPF Version	Centre
2016-11-17	SR-1 06.07	Marine Centre
2016-11-22		Core Ground Station
2016-11-23		Land Centre
2017-01-12	SR-1 06.09	Marine Centre
		Core Ground Station
		Land Centre
2017-02-28	SR-1 06.10	Marine Centre
		Core Ground Station
		Land Centre
2017-04-12	SR-1 06.11	Marine Centre
		Core Ground Station
		Land Centre
2017-12-13	SR-1 06.12	Marine Centre
		Core Ground Station
		Land Centre
2018-02-14	SR-1 06.13	Marine Centre
		Core Ground Station
		Land Centre
2018-04-04	SR-1 06.14 (current)	Marine Centre
		Core Ground Station
		Land Centre



The quality of L1 products is within the mission requirements.

Note that since version 06.09 the L1 products are generated with internal netcdf4 compression enabled. This is transparent to the user.

Known product quality limitations

The Sentinel-3A STM products have some known processing limitations, which are reported in the next pages.

Anomaly #1: Error in the manoeuvre flag (EUM/Sen3/AR/2268)

- There is an inconsistency between the product specifications (S3IPF PDS 003 -i1r7- Product Data Format Specification - SRAL-MWR) and the effective values in the products of the manoeuvre presence flag (values are set to 4 or 5 instead of 0 or 1 as specified in the documentation).
- Fixed in version 06.12

Anomaly #2: Mismatch between auxiliary files reported in the manifest and global attributes (SIIMPC 1537)

- The information reported in the SRAL manifest is different from the one reported in the NetCDF global attributes. The majority of the auxiliary data files (ADFs) reported in the manifest are not reported in the global attributes.
- Fixed in version 06.12

Anomaly#3: EUM/Sen3/AR/3404: Issue in L0 IPF in computing the ANX Cross Time (SIIMPC 1918)

- An error has been detected in the computation of the ANX time that leads to an error of up to 8 seconds in the equator crossing time. This currently affects L1 and L2. This ANX value is used internally to generate the start/stop times of the pole to pole passes (STC and NTC) which was now improved.
- Fixed in version 06.14



Notice #1: Longer calibration time window:

Since IPF version 06.13 the time window of the on-board calibrations (CAL2) applied to the measurement data has been extended within the ground processing: both Ku and C band use a 27 days average calibration. This will provide smoother calibration and less day-to-day variations in the scientific data.

Notice #2: Number of beams in the stack:

Since IPF version 06.12 the number of stack beams is increased from 174 to 180. This will employ all the useful beams in the stack.

Notice #3: The CAL1 PTR Power is noisy (“EUM/Sen3/AR/3311”):

Since IPF version 06.13, the noise present on the SRAL CAL1 PTR (Point Target Response) power has been reduced thanks to the application of an averaged CAL2 correction. Note that it has no impact on the scientific data in Ku-band and a small effect in C-band.

Notice #4: C Band CAL2 Filter Mask is quite noisy (“EUM/Sen3/AR/3739”):

It is observed that the CAL2 Filter mask in C Band has still a high level of speckle noise. Since IPF version 06.13, the CAL2 Filter mask in Ku Band is used for processing the C-band parameters.

Notice#5: SRAL acquisition mode in L1 products (SIIMPC-2065):

Since IPF version 06.14, the SRAL data during which SRAL altimeter operates in acquisition mode are available in the SRAL Level 1 SAFE products. All these data are gathered in a separate NetCDF file named as follows “acquisition.nc”. Note that this evolution has not impact on the measurement file “measurement.nc”. When no acquisition information is available, no “acquisition.nc” file is available.



Products Availability

- Copernicus Open Access Hub (<https://scihub.copernicus.eu/>), NRT, STC and NTC
- Copernicus Online Data Access (<https://coda.eumetsat.int/>), NRT, STC and NTC (see details below)
- EUMETCast (<https://eoportal.eumetsat.int/>), NRT, STC (see details below)
- EUMETSAT Data Centre (<https://eoportal.eumetsat.int/>), NRT, STC and NTC (see details below)
- EUMETSAT Online Data Access (<ftp://oda.eumetsat.int/>), NRT, STC and NTC (see details below)
- FTP server address login: login password: password

Product	EUMETCast	ODA*	CODA**	EUMETSAT Data Centre
L1B	NRT, STC	NRT, STC, NTC	NRT, STC, NTC	NRT, STC, NTC
L1A	-	STC, NTC	STC, NTC	STC, NTC
L1BS	-	STC, NTC	STC, NTC	STC, NTC

* ODA is available only for Copernicus Services and S3VT users

** CODA is the Copernicus Online Data Access service and is available to all users



Any other useful information

- Since IPF version 06.12, the baseline collection number in the products filename changed from 2 to 3 to reflect the major evolutions introduced by this Processing Baseline. As an example, the filename for STC products will be labeled as O_ST_003.SEN3 instead of O_ST_002.SEN3
- Note that the SRAL NRT products are 10 minutes length, instead of being dump based as originally specified – this is part of the new Product Definition.
- The fine tracker word is not applied in the L1B waveforms creating saw tooth behavior on the radargram. This is not considered an anomaly since the range can be computed using the tracker and epoch provided in the product or from the epoch coming from any external retracking applied by the users. All versions up to and including 06.14 are impacted.

References

- Sentinel-3 Mission Requirements Traceability Document (MRTD), C. Donlon, EOP-SM/2184/CD-cd, 2011.
<https://sentinel.esa.int/documents/247904/1848151/Sentinel-3-Mission-Requirements-Traceability>
- Product Data Format Specification – SRAL and-MWR Level 1, Ref: S3IPF.PDS.003.1, Issue: 2.10, Date: 28/02/2018
<https://sentinel.esa.int/web/sentinel/user-guides/sentinel-3-altimetry/document-library>

Current Processing Baseline - Static ADFs

- S3_AX__CST_AX_20000101T000000_20991231T235959_20151214T120000_____MPC_O_AL_001.SEN3
- S3A_SR_1_CONCAX_20160216T000000_20991231T235959_20171130T120000_____MPC_O_AL_003.SEN3
- S3A_SR_1_CONMAX_20160216T000000_20991231T235959_20180213T120000_____MPC_O_AL_007.SEN3
- S3A_SR__CHDRAX_20160216T000000_20991231T235959_20180213T120000_____MPC_O_AL_003.SEN3
- S3A_SR__CHDNAX_20160216T000000_20991231T235959_20180213T120000_____MPC_O_AL_003.SEN3

End of the Product Notice