

# **S3 Product Notice – SLSTR**

Mission	S3A and S3B	
Sensor	SLSTR	
Product	Level 2 Land Surface Temperature	
Product Notice ID	S3.PN-SLSTR-L2L.02	
Issue/Rev Date	25/02/2019	
Version	1.0	
Preparation	This Product Notice was prepared by the S3 Mission Performance Centre and by ESA experts	
Approval	ESA Mission Management	

## Summary

This is a Product Notice for the release of Sentinel-3 Sea and Land Surface Temperature Radiometer (SLSTR) Level-2 Land Surface Temperature product for both S3A and S3B. The Notice describes the SLSTR current processing baseline relevant to Land Surface Temperature, product quality and limitations, and product availability.





Processing Baselines						
	S3A	S3B				
Processing Baseline	Processing Baseline: 2.47	Processing Baseline: 1.19				
IPFs version	<ul> <li>SL_1 IPF version: 06.16</li> <li>SL_2_LST IPF version: 06.14</li> <li>PUG version: 3.35</li> </ul>					

Current Operational Processing Baseline					
IPF	IPF Version	In operation since (creation date)			
S3A SL1	06.16	• NRT: 02/08/2018 09:22 UTC			
		• NTC: 02/08/2018 09:32 UTC			
S3A SL2	06.14	• NRT & NTC: 25/02/2019 09:33 UTC			
S3B SL1	06.16	• NRT & NTC: 15/10/2018 15:28 UTC			
S3B SL2	06.14	• NRT & NTC: 25/02/2019 09:24 UTC			
PUG	03.35	• 12/06/2018 11 :43 UTC			



#### Status of the Processing Baseline

S3A

# Level-2 LST Products

- The LST retrieval algorithm has been generated with a new set of retrieval coefficients which utilises an enhanced approach to simulating the across track variation in LST performance when generating the coefficients.
- Implementation of the new retrieval coefficients has improved the performance of the S3A LST product with respect to intercomparison against operational LSA SAF SEVIRI LST
- The performance against in situ measurements remains within mission requirements of 1 K

## S3B

#### Level-2 LST Products

- The LST retrieval algorithm has been generated with a set of retrieval coefficients which utilises an enhanced approach to simulating the across track variation in LST performance when generating the coefficients.
- Implementation of the retrieval coefficients has improved the comparability between S3A and S3B LST during the Tandem Phase
- The performance against in situ measurements is within mission requirements of 1 K

Known product quality limitations

Common to S3A and S3B

## Cloud screening

- The implementation of the probabilistic cloud mask has a two known issues, which are awaiting resolution by the S3MPC:
  - There is a 3-hour mismatch in the selected "nearest" 6-hourly meteorological input datafiles to the L1 and L2 products, which is causing an inconsistency in performance of the probabilistic cloud mask between NRT and NTC products



• The implementation of the probabilistic cloud mask takes the "nearest" meteorological datafile as input to the cloud detection scheme rather than temporally interpolating between available meteorological datafiles. This can cause a repeating pattern of over- and undermasking by the cloud mask over the globe

# LST Uncertainty

- The LST theoretical uncertainties are noise-limited at present and require evolution of the algorithm. The latest knowledge of LST uncertainties is not included in the existing model and updates are expected in the future.
- The user is advised to consider the following uncertainties, banded by atmosphere type, as a more representative upper estimate:
  - 0.8K for polar regions
  - 1.5K for mid-latitudes
  - 2K for equatorial latitudes

## **Specific to S3A**

• Nothing specific to S3A

# Specific to S3B

## **Cloud screening**

- The probabilistic cloud mask is still using an older version of the cloud coefficients ADF.
- This will be updated on implementation of the temporal interpolation scheme for the meteorological inputs to the probabilistic cloud detection scheme

## Products Availability

- Copernicus Open Access Hub (<u>https://scihub.copernicus.eu/</u>), NRT and NTC
- ESA Internal Hub for Experts (<u>https://inthub.copernicus.eu/s3exp/</u>), NRT and NTC
- 🗆 Other



Any other useful information

None

User Support

- Questions about SLSTR products can be ask to the Sentinel-3 User Support desk at:
  - o <u>eosupport@copernicus.esa.int</u>

#### References

- SLSTR L1 Product Notice, ref. S3.PN.SLSTR-L1.06, version 1.1, dated on 19/11/2018
- Product Data Format Specification SLSTR Level 1 & 2 Instrument Products, Ref: S3IPF.PDS.002, Issue: 1.6, Date: 29/06/2015

https://sentinel.esa.int/web/sentinel/user-guides/sentinel-3-slstr/document-library







	S3A				
•	S3SL_2_LSTBAX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3			
•	S3SL_2_LSTVAX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3			
•	S3SL_2_LSTWAX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3			
•	S3SL_2_SST_AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3			
•	S3A_SL_2_PCP_AX_20160216T000000_20991231T235959_20180219T120000	MPC_O_AL_005.SEN3			
•	S3A_SL_2_D2_CAX_20160216T000000_20991231T235959_20170116T120000	MPC_O_AL_003.SEN3			
•	S3A_SL_2_D3_CAX_20160216T000000_20991231T235959_20170116T120000	MPC_O_AL_003.SEN3			
•	S3A_SL_2_N2_CAX_20160216T000000_20991231T235959_20170116T120000	MPC_O_AL_003.SEN3			
•	S3A_SL_2_N3_CAX_20160216T000000_20991231T235959_20170116T120000	MPC_O_AL_003.SEN3			
•	S3A_SL_2_N3RCAX_20160216T000000_20991231T235959_20170116T120000	MPC_O_AL_003.SEN3			
•	S3A_SL_2_F1N_AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3			
•	S3A_SL_2_S7N_AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3			
•	S3A_SL_2_S7O_AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3			
•	S3A_SL_2_S8N_AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3			
•	S3A_SL_2_S8O_AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3			
•	S3A_SL_2_S9N_AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3			
•	S3A_SL_2_S9O_AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3			
•	S3A_SL_2_SDI2AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3			
•	S3A_SL_2_SDI3AX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3			
•	S3A_SL_2_SSESAX_20000101T000000_20991231T235959_20160721T120000	MPC_O_AL_002.SEN3			
•	S3A_SL_2_LSTCAX_20160216T000000_20991231T235959_20190215T120000	MPC_O_AL_003.SEN3			

**Static ADFs** 

S3A\_SL\_2\_LSTEAX\_20160216T000000\_20991231T235959\_20170116T120000\_\_\_\_\_\_MPC\_0\_AL\_002.SEN3

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European Union Programme



## S3B

•	S3SL_2_LSTBAX_20000101T000000_20991231T235959_20151214T120000	_MPC_O_AL_001.SEN3
•	S3SL_2_LSTVAX_20000101T000000_20991231T235959_20151214T120000	_MPC_O_AL_001.SEN3
•	S3SL_2_LSTWAX_20000101T000000_20991231T235959_20151214T120000	MPC_O_AL_001.SEN3
•	S3SL_2_SST_AX_20000101T000000_20991231T235959_20151214T120000	_MPC_O_AL_001.SEN3
•	S3B_SL_2_PCP_AX_20180425T000000_20991231T235959_20180409T120000	MPC_O_AL_001.SEN3
•	S3B_SL_2_F1N_AX_20180425T000000_20991231T235959_20180409T120000	MPC_O_AL_001.SEN3
•	S3B_SL_2_S7O_AX_20180425T000000_20991231T235959_20180409T120000	MPC_O_AL_001.SEN3
•	S3B_SL_2_S8O_AX_20180425T000000_20991231T235959_20180409T120000	MPC_O_AL_001.SEN3
•	S3B_SL_2_S9O_AX_20180425T000000_20991231T235959_20180409T120000	MPC_O_AL_001.SEN3
•	S3B_SL_2_S7N_AX_20180425T000000_20991231T235959_20180409T120000	MPC_O_AL_001.SEN3
•	S3B_SL_2_S8N_AX_20180425T000000_20991231T235959_20180409T120000	MPC_O_AL_001.SEN3
•	S3B_SL_2_S9N_AX_20180425T000000_20991231T235959_20180409T120000	MPC_O_AL_001.SEN3
•	S3B_SL_2_SDI2AX_20180425T000000_20991231T235959_20180409T120000	_MPC_O_AL_001.SEN3
•	S3B_SL_2_SDI3AX_20180425T000000_20991231T235959_20180409T120000	_MPC_O_AL_001.SEN3
•	S3B_SL_2_D2_CAX_20180425T000000_20991231T235959_20180409T120000	MPC_O_AL_001.SEN3
•	S3B_SL_2_D3_CAX_20180425T000000_20991231T235959_20180409T120000	MPC_O_AL_001.SEN3
•	S3B_SL_2_N2_CAX_20180425T000000_20991231T235959_20180409T120000	MPC_O_AL_001.SEN3
•	S3B_SL_2_N3_CAX_20180425T000000_20991231T235959_20180409T120000	MPC_O_AL_001.SEN3
•	S3B_SL_2_N3RCAX_20180425T000000_20991231T235959_20180409T120000	MPC_O_AL_001.SEN3
•	S3B_SL_2_SSESAX_20180425T000000_20991231T235959_20180409T120000	_MPC_O_AL_001.SEN3
•	S3B_SL_2_LSTEAX_20180425T000000_20991231T235959_20180409T120000	_MPC_O_AL_001.SEN3
•	S3B_SL_2_LSTCAX_20180425T000000_20991231T235959_20190215T120000	_MPC_O_AL_002.SEN3

End of the Product Notice