



## S3 Product Notice – OLCI

<b>Mission</b>	S3-A
<b>Sensor</b>	OLCI
<b>Product</b>	<ul style="list-style-type: none"> <li>• OL_1_EFR in NRT and NTC</li> <li>• OL_1_ERR in NRT and NTC</li> </ul>
<b>Product Notice ID</b>	S3A.PN-OLCI-L1.03
<b>Issue/Rev Date</b>	14/03/2018
<b>Version</b>	1.0
<b>Preparation</b>	This Product Notice was prepared by the S3 Mission Performance Centre and by ESA and EUMETSAT experts
<b>Approval</b>	Joint ESA-EUM Mission Management

### Summary

This is a Product Notice for Sentinel-3 Ocean and Land Colour Instrument (OLCI) Level-1B products at Near Real Time (NRT) and Non Time Critical (NTC) timeliness. It corresponds to the abovementioned products generated by the processing baseline deployed for the Marine and Land Level 1 public release.

The Notice describes the OLCI current processing baseline, product and quality limitations, and product availability status.



### Processing Baseline

<b>Processing Baseline</b>	<ul style="list-style-type: none"> <li>IPF Processing Baseline: 2.29</li> </ul>
<b>IPFs version</b>	<ul style="list-style-type: none"> <li>OL_1 IPF version: 06.07</li> <li>PUG version: 03.34</li> </ul>

### Current Operational Processing Baseline

IPF	IPF Version	In operation since (creation time)
OL1	06.07	<p><b>Land Centres:</b></p> <p>NRT mode: 14/03/2018 TBD UTC            NTC mode: 14/03/2018 TBD UTC</p> <p><b>Marine Centre:</b></p> <p>NRT mode: 14/03/2018 TBD UTC            NTC mode: 14/03/2017 TBD UTC</p>
PUG	03.34	<p><b>Land Centres:</b></p> <p>NRT mode: 07/03/2018 10:03 UTC            NTC mode: 07/03/2018 10:19 UTC</p> <p><b>Marine Centre:</b></p> <p>NRT mode: 07/03/2018 10:39 UTC            NTC mode: 07/03/2018 10:39 UTC</p>



## Status of the Processing Baseline

The current processing baseline for Sentinel-3A OLCI Level-1B products is v2.29. The baseline was deployed in the processing centres on 14/03/2018 at the Land and Marine Centres. The status of the baseline is as follows:

The major changes from the last processing baseline 2.23 are the following:

- Update of the Geometric Calibration to correct for the geolocation drift mostly affecting camera 3
- Update of the Dark Correction Tables to minimize Periodic Noise impact

The quality status of this baseline products is as follows:

### Geometric Calibration

- OLCI geolocation accuracy meets the mission requirements in terms of global RMS value (0.5 pixel according to [S3 MRTD, 2011](#)). Validation of the updated Geometric Calibration, using Landsat ground control points on a partial reprocessing covering mid-October 2017 to end of January 2018 shows the following geolocation accuracy per camera:

Camera Module	Across Track Pixel Bias	Along Track Pixel Bias
1	0.04	0.06
2	0.06	0.04
3	0.09	0.04
4	0.08	0.04
5	0.09	0.04

### Spectral Calibration

- OLCI spectral model accuracy meets the mission requirements ([S3 MRTD, 2011](#)). The model uses in-flight data from spectral calibrations. The calibrations bring small changes to the central wavelengths compared to OLCI pre-launch characterizations and a more significant change to channel Oa1 (400 nm) with up to 0.4nm difference. Consistently with the solar spectrum variability, the most significant change is in in-band irradiance of channel Oa1 (up to around 1.5%) with the same impact on radiometry. OLCI spectral response information and datasets are provided in a separate note ([S3 OLCI-A SRF, 2016](#)).



### Radiometric Calibration

- Radiometric validation results demonstrate that OLCI absolute radiometric calibration is comparable with its heritage instrument, MERIS, and that OLCI has a positive bias of about 2 to 3 percent throughout all bands, with the exception of band Oa21 (1020nm) at about 6 percent, OLCI being too bright. Actions are in place to achieve OLCI radiometric compliancy (2% absolute accuracy below 900 nm, 5% above 900 nm, [S3 MRTD](#)).
- The OLCI Radiometric Model is based on the entire set of in-flight radiometric calibrations. It includes radiometric gain coefficients at a reference date and a long-term evolution model. The set of radiometric gain coefficients used to derive both the Reference Gains and the Evolution Model have been computed using up-to-date geometric and spectral calibration and instrument settings and most of all an upgraded diffuser BRDF model based on in-flight data and diffuser ageing (browning) correction. The Radiometric Model is continuously monitored against new Radiometric Calibration acquisitions.

## Known product quality limitations

### Radiometric Calibration

- Vertical striping at the first 100 pixels at camera interfaces can be observed in bands O19 and O20. The effect is known as periodic noise. Correction is investigated.
- Single anomalous pixels, in particular in the region of the South Atlantic Anomaly, may occur due to prompt particle events.

### Straylight

- Verification of the OLCI straylight correction is ongoing.

### Flags

- Accuracy of OLCI L1B product flags is under assessment. No issue has been identified so far.

### Per-pixel uncertainty estimates

- Uncertainty estimates for OLCI radiances for all bands are not yet available in the products.



### Products Availability

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

Product	EUMETCast	ODA*	CODA**	EUMETSAT Data Centre
L1 RR	NRT	NRT, NTC	NRT, NTC	NRT, NTC
L1 FR	NRT	NRT, NTC	NRT, NTC	NRT, NTC

\* ODA is available only for Copernicus Services and S3VT users

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

### Any other useful information

- None

### User Support

- Questions about OLCI products can be ask to the Sentinel-3 User Support desk at:
  - [eosupport@copernicus.esa.int](mailto:eosupport@copernicus.esa.int)
  - [ops@eumetsat.int](mailto:ops@eumetsat.int)



## 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>
- Sentinel-3 OLCI-A spectral response functions (SRF), Sentinel 3 CalVal Team, S3-TN-ESA-OL-660, 2016:  
<https://sentinels.copernicus.eu/documents/247904/2700436/Sentinel-3-OLCI-A-spectral-response-functions>

## Static L1 updated ADFs

- S3A\_OL\_1\_CAL\_AX\_20180125T041112\_20991231T235959\_20180208T120000\_\_\_\_\_MPC\_O\_AL\_018.SEN3

***End of the Product Notice***