

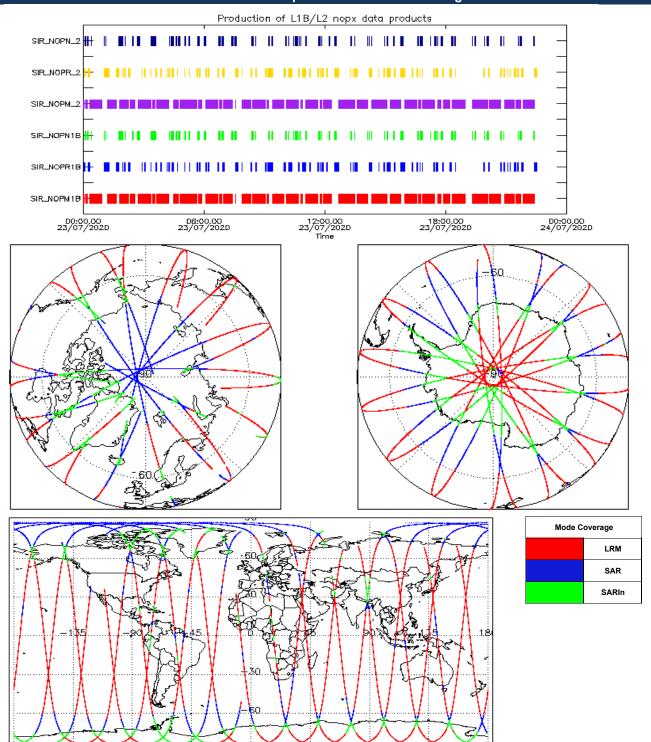
1. Overview

Report Production:	24-Jul-2020		
Processor Used:	CryoSat Ocean Processor		
Data Used:	Near Real Time Ocean Products (NOP) L1B & L2 Science Data		

Check	L1 & L2
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	Nominal
Auxiliary Data File Usage Check	See Section 4.3 and 5.3
Auxiliary Correction Error Check	See Section 5.4
Measurement Confidence Data Check	See Section 4.5, 4.6 and 5.5
Measurement Quality Flag Check	See Section 5.6
Ocean Retracking Quality Check	See Section 5.7
QCC Error/ Warning Check	See Section 6.2

Mission / Instrument News	
22-Jul-2020	None
23-Jul-2020	CRYO2ICE Orbit raising activities. SIRAL unavailability from 23/07/2020 22:30:21 to 24/07/2020 05:14:31. AUXIIONGIM file was delayed.
24-Jul-2020	CRYO2ICE Orbit raising activities.

2. Production Completeness & Global Coverage



3. Instrument Configuration

The SIRAL instrument configuration for the day of acquisition is provided below.

SIRAL instrument(s) in use:	SIRAL - A
Star Tracker(s) in use:	Star Tracker 1

4. NOP Level 1B Data Quality Check

4.1 L1B Product Format Check

Each product, retrieved and unpacked from the science server, is checked to ensure it consists of both an XML header file (.HDR) and a binary product file (.DBL).

Number of products with errors:

0

4.2 L1B Product Header Analysis

For all products, a series of pre-defined checks are performed on the MPH and SPH in order to identify any inconsistencies and/or errors raised by the ground-segment processing chain.

L1B Processing Quality HR: The I1b_proc_flag_Inr flag is currently set all L1B IOPR and IOPN products because the I1b_processing_quality_hr field is not correctly configured in the OSAR and OSARIn chains. A modification is required in the next release.

Number of products with errors:

0

4.3 L1B Auxilary Data File Usage Check

Each product is checked for missing Data Set Descriptors with respect to a pre-determined baseline and also to check the validity of Auxiliary Data Files is correct.

Dynamic Atmospheric Correction: The DAC is missing in all products because the auxiliary files required are not available in time for processing. This known and expected behaviour.

Number of products with errors: 19

Product	AUX File		Comment
195 L1 NOP products from 2020-07-22 23:51:14 to 2020-07-23 12:06:49	IGIM Ionospheric correction	There is records	s an error with the GIM Ionospheric correction for one or more

4.4 L1B Auxiliary Correction Error Check

CryoSat L1B data includes a correction error flag for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors:

Ω

3

4.5 L1B Measurement Confidence Data Check

CryoSat L1B data includes a measurement confidence flag for each measurement record. The bit value of this flag indicates any problems when set.

> Attitude Correction Missing: This flag is currently set in error for NOPR products due to a configuration issue. This is being investigated and will be updated in the next SW update.

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_NOPM1B_20200723T030549_20200723T032036_C001	Power scaling error	There is an error in the scaling of the L1B waveform for one or more records
CS_OFFL_SIR_NOPM1B_20200723T060721_20200723T061218_C001	Power scaling error	There is an error in the scaling of the L1B waveform for one or more records
CS_OFFL_SIR_NOPM1B_20200723T141947_20200723T144044_C001	Power scaling error	There is an error in the scaling of the L1B waveform for one or more records

4.6 L1B Waveform Group Data Check

CryoSat L1B data includes a waveform data flag for each measurement record. The bit value of this flag indicates any problems when set.

> Loss of Echo Flag: This flag is currently set for products over land, but this is to be expected.

Number of products with errors: 12

Product	Test Failed	Description
CS_OFFL_SIR_NOPM1B_20200723T001837_20200723T002345_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPM1B_20200723T005105_20200723T005447_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPM1B_20200723T021336_20200723T021455_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPM1B_20200723T090949_20200723T091113_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPM1B_20200723T141947_20200723T144044_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPM1B_20200723T152938_20200723T154455_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPM1B_20200723T171041_20200723T171315_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20200723T024114_20200723T024148_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20200723T083228_20200723T083356_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20200723T123259_20200723T123334_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20200723T154932_20200723T155146_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPR1B_20200723T103955_20200723T104334_C001	Loss of Echo	The tracking echo is missing for one or more records

5. NOP Level 2 Data Quality Check

5.1 L2 Product Format Check

Each product, retrieved and unpacked from the science server, is checked to ensure it consists of both an XML header file (.HDR) and a binary product file (.DBL).

5.2 L2 Product Header Analysis

For all products, a series of pre-defined checks are performed on the MPH and SPH in order to identify any inconsistencies and/or errors raised by the ground-segment processing chain.

Number of products with errors:

5.3 L2 Auxiliary Data File Usage Check

Each product is checked for missing Data Set Descriptors with respect to a pre-determined baseline and also to check the validity of Auxiliary Data Files is correct.

Wind Model File Usage: This file is currently not included in all L2 products.

Number of products with errors: 195

Product	AUX File	Comment
195 L2 NOP products from 2020-07-22 23:51:14 to 2020-07-23 12:06:49	GIM lonospheric correction	There is an error with the GIM lonospheric correction for one or more records

5.4 L2 Auxiliary Correction Error Check

For all products, the auxiliary corrections within the Geophysical Group are checked for the default error value (32767).

Currently, there are some common auxiliary correction errors raised in the Level 2 products which are expected due to surface type. All common flags are summarised in the list below, followed by a table highlighting any additional issues which may arise from this test.

- > ECMWF Meteo Corrections: Currently the following corrections are not computed over CONTINENTAL ICE: Dry Tropospheric Corection, Wet Tropospheric Correction, Inverse Barometric Correction and the U-Wind and V-Wind components of the ECMWF model wind vector. This is a known anomaly (CRYO-COP-3) and will be resolved in a future IPF update.
- > Mean Sea Surface: The error value is currently set for products over land and sea ice, but this is to be expected.
- > Mean Dynamic Topography: The error value is currently set for products over land and sea ice, but this is to be expected.
- > Altimetric Wind Speed Error: The error value is currently set for products over land and sea ice, but this is to be expected.

Number of products with errors: 24

There is an error with the MSS heir CS_OFFL_SIR_NOPM_2_20200723T020528_20200723T043704_C001 CS_OFFL_SIR_NOPM_2_20200723T042956_20200723T043704_C001 CS_OFFL_SIR_NOPM_2_20200723T090948_20200723T091113_C001 CS_OFFL_SIR_NOPM_2_20200723T160408_20200723T161923_C001 Gin lonospheric correction Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide Mean Sea Surface (1), Mean Dynamic Topography (solution 1) and the tide (GOT) There is an error with the MSS heir Topography (solution 1) and the tide (GOT) Mean Dynamic Topography (1) There is an error with the MSS heir Topography (solution 1) and height (solution 1) and height (solution 1: GOT) for one or more records There is an error with the MSS heir Topography (1), Total Geocentric Ocean Tide (GOT) Mean Dynamic Topography (1) There is an error with the Mean Dynamic Topography (1) There is an error with the MSS heir Topography (1) and the tide (GOT) There is an error with the MSS heir Topography (1) and the tide (GOT) There is an error with the MSS heir Topography (1) and the tide (GOT) There is an error with the MSS heir Topography (1) and the tide (GOT) There is an error with the MSS heir Topography (1) and the tide (GOT) There is an error with the MSS heir Topography (1) and the tide (GOT) There is an error with the MSS heir Topography (1) and the tide (GOT) There is an error with the MSS heir Topography (1) and the tide (GOT) There is an error with the Mean Dynamic Topography (1) and the tide (GOT) There is an error with the Mean Dynamic Topography (1) and the tide (GOT)	ight (solution 1), the Mean Dynamic dal corrections for one or more records ight (solution 1), the Mean Dynamic d the Total Geocentric Ocean Tide r more records
Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (GOT), Non-Equilibrium Long Period Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide (GOT) CS_OFFL_SIR_NOPM_2_20200723T042956_20200723T043704_C001 CS_OFFL_SIR_NOPM_2_20200723T0408_20200723T091113_C001 CS_OFFL_SIR_NOPM_2_20200723T160408_20200723T161923_C001 Topography (1), Total Geocentric Ocean Tide (GOT) Mean Sea Surface (1), Mean Dynamic Topography (and the season of the season occasion of the season occasion o	dal corrections for one or more records ight (solution 1), the Mean Dynamic d the Total Geocentric Ocean Tide
CS_OFFL_SIR_NOPM_2_20200723T042956_20200723T043704_C001 Topography (1), Total Geocentric Ocean Tide (GOT) Topography height (solution 1) and height (solution 1: GOT) for one or	d the Total Geocentric Ocean Tide
CS_OFFL_SIR_NOPM_2_20200723T1090948_20200723T1091113_C001 Mean Dynamic Topography (1) Mean Dynamic Topography (1) Mean Dynamic Topography (1) Mean Dynamic Topography (1) There is an error with the Mean Dynamic Topography (1)	
weari Dynamic Topography (1) more records There is an error with the Mean Dynamic Topography (1)	ynamic Topography height for one or
There is an error with the Mean Dy	ynamic Topography height for one or
CS_OFFL_SIR_NOPM_2_20200723T191821_20200723T191950_C001 Mean Dynamic Topography (1) more records	ynamic Topography height for one or
CS_OFFL_SIR_NOPN_2_20200723T000518_20200723T000633_C001 Mean Dynamic Topography (1) There is an error with the Mean Dynamic Topography (1)	ynamic Topography height for one or
CS_OFFL_SIR_NOPN_2_20200723T001126_20200723T001453_C001 Mean Sea Surface (1), Mean Dynamic Topography (1) Topography (1) There is an error with the MSS hei Topography height (solution 1) for	ight (solution 1) and the Mean Dynamic one or more records
CS_OFFL_SIR_NOPN_2_20200723T014603_20200723T014838_C001 Mean Sea Surface (1), Mean Dynamic Topography (1) There is an error with the MSS hei Topography (eight (solution 1) for	ight (solution 1) and the Mean Dynamic one or more records
	ight (solution 1), the Mean Dynamic d the Total Geocentric Ocean Tide r more records
CS_OFFL_SIR_NOPN_2_20200723T032126_20200723T032728_C001 Mean Sea Surface (1), Mean Dynamic Topography (1) There is an error with the MSS hei Topography height (solution 1) for	ight (solution 1) and the Mean Dynamic one or more records
CS_OFFL_SIR_NOPN_2_20200723T033443_20200723T033621_C001 GIM Ionospheric correction There is an error with the GIM Ionor records	ospheric correction for one or more
CS_OFFL_SIR_NOPN_2_20200723T042037_20200723T042239_C001 Mean Dynamic Topography (1) There is an error with the Mean Dynamic Topography (1)	ynamic Topography height for one or
CS_OFFL_SIR_NOPN_2_20200723T050330_20200723T050518_C001 Mean Sea Surface (1), Mean Dynamic Topography (1) Topography (1) Topography height (solution 1) for	ight (solution 1) and the Mean Dynamic one or more records
CS_OFFL_SIR_NOPN_2_20200723T051349_20200723T051542_C001 Mean Dynamic Topography (1) There is an error with the Mean Dynamic Topography (1)	ynamic Topography height for one or
CS_OFFL_SIR_NOPN_2_20200723T055950_20200723T060440_C001 Mean Dynamic Topography (1) There is an error with the Mean Dynamic Topography (1)	ynamic Topography height for one or
CS_OFFL_SIR_NOPN_2_20200723T082234_20200723T082354_C001 Mean Sea Surface (1), Mean Dynamic Topography (1) There is an error with the MSS hei Topography (eight (solution 1) for	ight (solution 1) and the Mean Dynamic one or more records
CS_OFFL_SIR_NOPN_2_20200723T082413_20200723T082632_C001 Mean Dynamic Topography (1) There is an error with the Mean Dynamic Topography (1)	ynamic Topography height for one or
	ight (solution 1), the Mean Dynamic dal corrections for one or more records
CS_OFFL_SIR_NOPN_2_20200723T101059_20200723T101217_C001 Mean Dynamic Topography (1) There is an error with the Mean Dynamic Topography (1)	ynamic Topography height for one or
CS_OFFL_SIR_NOPN_2_20200723T114109_20200723T114428_C001 Mean Sea Surface (1), Mean Dynamic Topography (1) Topography (1) There is an error with the MSS hei Topography height (solution 1) for	ight (solution 1) and the Mean Dynamic one or more records
CS_OFFL_SIR_NOPN_2_20200723T114956_20200723T115120_C001 Mean Dynamic Topography (1) There is an error with the Mean Dynamic Topography (1)	ynamic Topography height for one or
CS_OFFL_SIR_NOPN_2_20200723T123021_20200723T123144_C001	ynamic Topography (solution 1), the ution 1: GOT and solution 2: FES) and Ocean Tide for one or more records
CS_OFFL_SIR_NOPN_2_20200723T123259_20200723T123334_C001 Mean Sea Surface (1), Mean Dynamic Topography (1) Topography (1) There is an error with the MSS hei Topography height (solution 1) for	ight (solution 1) and the Mean Dynamic one or more records
CS_OFFL_SIR_NOPN_2_20200723T132801_20200723T132940_C001 Mean Sea Surface (1), Mean Dynamic Topography (1) There is an error with the MSS hei Topography (eight (solution 1) for	ight (solution 1) and the Mean Dynamic one or more records
CS_OFFL_SIR_NOPN_2_20200723T140640_20200723T140807_C001 Mean Dynamic Topography (1) There is an error with the Mean Dynamic Topography (1) more records	ynamic Topography height for one or

CS_OFFL_SIR_NOPN_2_20200723T141135_20200723T141232_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20200723T145650_20200723T145832_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20200723T150544_20200723T150756_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20200723T154932_20200723T155146_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20200723T163603_20200723T163749_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20200723T164434_20200723T165036_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20200723T172615_20200723T173011_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20200723T181557_20200723T181830_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20200723T182541_20200723T182737_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20200723T222146_20200723T222316_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPR_2_20200723T030336_20200723T030549_C001	Mean Sea Surface (1), Total Geocentric Ocean Tide (GOT) Total Geocentric Ocean Tide (GOT),	There is an error with the MSS height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records Inere is an error win the Total Geocentric Ocean Tide neight (solution 1:
CS_OFFL_SIR_NOPR_2_20200723T060510_20200723T060721_C001		GOT and solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_NOPR_2_20200723T073500_20200723T074014_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPR_2_20200723T090259_20200723T090504_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPR_2_20200723T091404_20200723T092202_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPR_2_20200723T105233_20200723T110124_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPR_2_20200723T123334_20200723T124118_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPR_2_20200723T141232_20200723T141814_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPR_2_20200723T155147_20200723T155828_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPR_2_20200723T173011_20200723T173532_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPR_2_20200723T210403_20200723T210451_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPR_2_20200723T222453_20200723T223022_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records

5.5 L2 Measurement Confidence Data Check

CryoSat L2 data includes a measurement confidence flag for each 20-Hz measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_NOPM_2_20200723T030549_20200723T032036_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records
CS_OFFL_SIR_NOPM_2_20200723T060721_20200723T061218_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records
CS_OFFL_SIR_NOPM_2_20200723T141947_20200723T144044_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records

5.6 L2 Measurement Quality Flag Check

L2 Quality Flags (20Hz)

CryoSat L2 data includes Quality Flags for each 20 Hz, 20 Hz PLRM and 1 Hz measurement record. The bit value of this flag indicates any problems when set.

Currently, there are several common flags raised in the Level 2 products, which are summarised below. The table provides the full list of products flagged.

- > Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags: These flags are currently set for some records over ocean.
- > OCOG Altimeter Range and Backscatter Quality Flags: These flags are currently set for some records over continental ice.

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_NOPM_2_20200722T235114_20200723T000124_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T000634_20200723T001126_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T001837_20200723T002345_C001	and Backscatter Quality, OCOG	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T002354_20200723T005044_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T011054_20200723T011437_C001	and Backscatter Quality, OCOG	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T011607_20200723T013904_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.

CS_OFFL_SIR_NOPM_2_20200723T015808_20200723T020336_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T021936_20200723T022700_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T024235_20200723T024547_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T024807_20200723T025400_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T025520_20200723T030335_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T030549_20200723T032036_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T032728_20200723T032945_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T033023_20200723T033443_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T033715_20200723T035124_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T035303_20200723T040523_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T042956_20200723T043704_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T043826_20200723T044043_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T044704_20200723T050112_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T050518_20200723T051349_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T051707_20200723T053853_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T061633_20200723T064050_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T065651_20200723T065755_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T065933_20200723T072113_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T073305_20200723T073338_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T075337_20200723T081903_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T082632_20200723T083227_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T083517_20200723T090251_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T090948_20200723T091113_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T091118_20200723T091253_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T092509_20200723T095813_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T100539_20200723T101059_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.

CS_OFFL_SIR_NOPM_2_20200723T104839_20200723T105232_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T110258_20200723T110357_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T110418_20200723T111341_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T111627_20200723T113741_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T114549_20200723T114955_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T115505_20200723T120502_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T120650_20200723T121259_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T121443_20200723T121924_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T124118_20200723T131626_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T131932_20200723T132440_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T132500_20200723T132800_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T133541_20200723T140640_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T141947_20200723T144044_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T144101_20200723T145604_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T145832_20200723T150338_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T151316_20200723T152318_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T152938_20200723T154455_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T160408_20200723T161923_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T162103_20200723T163443_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T163749_20200723T164249_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T164330_20200723T164434_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T165056_20200723T171038_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T171041_20200723T171315_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T175210_20200723T181306_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T181830_20200723T182206_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T182228_20200723T182540_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.

CS_OFFL_SIR_NOPM_2_20200723T182918_20200723T185619_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T192814_20200723T195311_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T195613_20200723T200121_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T200901_20200723T204213_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T205456_20200723T210137_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T210452_20200723T211230_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T212802_20200723T213226_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T213612_20200723T214154_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20200723T214919_20200723T222146_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T072113_20200723T072222_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T110217_20200723T110258_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T152318_20200723T152424_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T174508_20200723T174601_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T182222_20200723T182228_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T191950_20200723T192002_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200723T065803_20200723T065933_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200723T103955_20200723T104335_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200723T150338_20200723T150345_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200723T155147_20200723T155828_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200723T164929_20200723T164931_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.

L2 Quality Flags (20Hz PLRM)

Currently, there are several common flags raised in the Level 2 products, which are summarised below. The table provides the full list of products flagged.

- > Ocean Altimeter Range, SSHA, SWH and Backscatter PLRM Quality Flags: These flags are currently set for occasional records over sea ice.
- > OCOG Altimeter Range and Backscatter PLRM Quality Flags: These flags are currently set for occasional records over continental ice.

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_NOPN_2_20200723T000518_20200723T000633_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T001126_20200723T001453_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T010651_20200723T010743_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.

CS_OFFL_SIR_NOPN_2_20200723T014603_20200723T014838_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T015032_20200723T015356_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T024547_20200723T024807_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T032126_20200723T032728_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T041537_20200723T041622_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T042433_20200723T042647_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T043704_20200723T043813_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T044310_20200723T044704_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T050330_20200723T050518_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T054034_20200723T054402_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T055950_20200723T060440_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T082234_20200723T082354_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T101059_20200723T101217_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T103318_20200723T103502_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T110127_20200723T110205_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T110357_20200723T110418_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T114109_20200723T114428_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T114956_20200723T115120_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T121300_20200723T121405_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T123021_20200723T123144_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T131753_20200723T131932_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T140640_20200723T140807_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T150544_20200723T150756_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T154525_20200723T154826_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T163603_20200723T163749_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20200723T164434_20200723T165036_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.

CS_OFFL_SIR_NOPN_2_20200723T174639_20200723T182213_C001 OCOG Altimeter Range Quality PLRM, OCOG Range and Backscatter Quality Flags have been somore records. The OCOG Range and Backscatter Quality Flags have been somore records. OCOG Altimeter Range Quality PLRM, OCOG Range and Backscatter Quality Flags have been somore records. OCOG Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flags set for one or more records. OCOG Altimeter Range Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flags set for one or more records. OCOG Altimeter Range Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flags set for one or more records. OCOG Altimeter Range Quality PLRM, OCOG Range and Backscatter Quality Flags set for one or more records. OCOG Altimeter Range Quality PLRM, OCOG Range and Backscatter Quality Flags set for one or more records. OCOG Altimeter Range Quality PLRM, OCOG Range and Backscatter Quality Flags have been set more records. OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set more records. OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags and Backscatter Quality PLRM, OCOG Range and Backscatter Quality PLRM, OCOG Range and Backscatter Quality Flags have been set more records.	t for one or lity Flags have been t for one or lity Flags have been
CS_OFFL_SIR_NOPN_2_20200723T182541_20200723T182737_C001 CS_OFFL_SIR_NOPN_2_20200723T182541_20200723T182737_C001 CS_OFFL_SIR_NOPN_2_20200723T191950_20200723T192002_C001 CS_OFFL_SIR_NOPN_2_20200723T191950_20200723T192002_C001 OCOG Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags set for one or more records. The Ocean Altimeter Range and Backscatter Quality Flags more records. The OCOG Range and Backscatter Quality Flags more records. The OCOG Range and Backscatter Quality Flags more records. The OCOG Range and Backscatter Quality Flags more records. The OCOG Range and Backscatter Quality Flags more records. The OCOG Range and Backscatter Quality Flags more records.	lity Flags have been t for one or lity Flags have been
CS_OFFL_SIR_NOPN_2_20200723T182541_20200723T182737_C001 and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags set for one or more records. CS_OFFL_SIR_NOPN_2_20200723T191950_20200723T192002_C001 CS_OFFL_SIR_NOPN_2_20200723T191950_20200723T192002_C001 CS_OFFL_SIR_NOPN_2_20200723T214356_20200723T214510_C001 CS_OFFL_SIR_NOPN_2_20200723T214356_20200723T214510_C001 CS_OFFL_SIR_NOPN_2_20200723T214356_20200723T214510_C001	t for one or lity Flags have been
OCOG Backscatter Quality OCOG Backscatter Quality more records. Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG and the OCOG Altimeter Range and Backscatter Quality PLRM, OCOG	lity Flags have been lity Flags
and Backscatter Quality PLRM, OCOG Allimeter Range, SSRA, SWM and Backscatter Quality PLRM, OCOG Allimeter Range, SSRA, SWM and backscatter Quality PLRM, OCOG Allimeter Range, SSRA, SWM and backscatter Quality PLRM, OCOG	have been
PLRM set for one or more records.	
CS_OFFL_SIR_NOPR_2_20200723T000124_20200723T000518_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags set for one or more records.	
CS_OFFL_SIR_NOPR_2_20200723T001453_20200723T001837_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags set for one or more records.	
CS_OFFL_SIR_NOPR_2_20200723T013904_20200723T014603_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags set for one or more records.	
CS_OFFL_SIR_NOPR_2_20200723T030336_20200723T030549_C001 OCOG Altimeter Range Quality PLRM, OCOG Range and Backscatter Quality Flags have been so more records.	t for one or
CS_OFFL_SIR_NOPR_2_20200723T040857_20200723T040936_C001 OCOG Altimeter Range Quality PLRM, OCOG Range and Backscatter Quality Flags have been seem of the company of the c	t for one or
CS_OFFL_SIR_NOPR_2_20200723T041450_20200723T041537_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality PLRM, ocog Backscatter Quality The OCOG Range and Backscatter Quality Flags have been seemore records.	t for one or
CS_OFFL_SIR_NOPR_2_20200723T044043_20200723T044139_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality PLRM, ocog Backscatter Quality The OCOG Range and Backscatter Quality Flags have been so more records.	t for one or
CS_OFFL_SIR_NOPR_2_20200723T060510_20200723T060721_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality PLRM, ocog Backscatter Quality The OCOG Range and Backscatter Quality Flags have been so more records.	t for one or
CS_OFFL_SIR_NOPR_2_20200723T061218_20200723T061429_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality PLRM, or records.	t for one or
CS_OFFL_SIR_NOPR_2_20200723T065412_20200723T065651_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM The Ocean Altimeter Range, SSHA, SWH and the OCOG Altimeter Range and the OCOG Altimeter Range and Backscatter Quality Flags set for one or more records.	
CS_OFFL_SIR_NOPR_2_20200723T073500_20200723T074014_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags set for one or more records.	
CS_OFFL_SIR_NOPR_2_20200723T075142_20200723T075337_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags set for one or more records.	
CS_OFFL_SIR_NOPR_2_20200723T095813_20200723T100225_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags set for one or more records.	
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM The Ocean Altimeter Range, SSHA, SWH and the OCOG Altimeter Range and Backscatter Quality Flags set for one or more records.	
CS_OFFL_SIR_NOPR_2_20200723T103955_20200723T104335_C001 OCOG Altimeter Range Quality PLRM, OCOG Range and Backscatter Quality Flags have been so more records.	t for one or
CS_OFFL_SIR_NOPR_2_20200723T113741_20200723T114108_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flags age for one or more records. The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags age for one or more records.	
CS_OFFL_SIR_NOPR_2_20200723T115121_20200723T115505_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM The Ocean Altimeter Range, SSHA, SWH and the OCOG Altimeter Range and the OCOG Altimeter Range and Backscatter Quality Flags set for one or more records.	
CS_OFFL_SIR_NOPR_2_20200723T132941_20200723T133541_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM The Ocean Altimeter Range, SSHA, SWH and the OCOG Altimeter Range and the OCOG Altimeter Range and Backscatter Quality PLRM	
CS_OFFL_SIR_NOPR_2_20200723T141232_20200723T141814_C001 OCOG Altimeter Range Quality PLRM, OCOG Range and Backscatter Quality Flags have been seem of the company of the c	t for one or
CS_OFFL_SIR_NOPR_2_20200723T150338_20200723T150345_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality The OCOG Range and Backscatter Quality Flags have been so more records.	t for one or

CS_OFFL_SIR_NOPR_2_20200723T150757_20200723T151316_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200723T152724_20200723T152937_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200723T154455_20200723T154525_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200723T155147_20200723T155828_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200723T161923_20200723T162102_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200723T173606_20200723T173702_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200723T182737_20200723T182918_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200723T200626_20200723T200901_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200723T204416_20200723T204425_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200723T210403_20200723T210451_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200723T212258_20200723T212801_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200723T213226_20200723T213453_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20200723T222453_20200723T223022_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.

L2 Quality Flags (1 Hz & 1Hz PLRM)

Currently, there are several common flags raised in the Level 2 products, which are summarised below.

> 1Hz and 1Hz Ocean SSHA Quality Flags: These flags are currently set for products over sea ice, which is to be expected.

Number of products with errors:

5.7 L2 Ocean Retracking Quality Check

L2 Retracking Flags (20Hz)

CryoSat L2 data includes an ocean retracking quality flag for each 20-Hz measurement record. The bit value of this flag indicates any problems when set.

Ocean Retracking Quality Flag: This flag is currently set for products falling at ocean/ land boundaries, but this is expected.

Number of products with errors:

57

L2 Retracking Flags (20Hz, PLRM)

CryoSat L2 data includes an ocean retracking quality flag for each 20-Hz PLRM measurement record. The bit value of this flag indicates any problems when set.

Ocean Retracking Quality Flag (PLRM): This flag is currently set for products NOPR and NOPN products over sea ice, but this is to be expected.

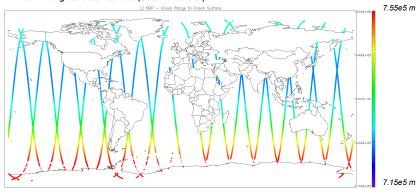
Number of products with errors:

5.8 L2 Parameters Check

The following section provides plots and statistics of some key science parameters extracted from the L2 products.

Range to Ocean Surface (Ocean and OCOG retrackers)

L2 NOP - Range to Ocean Surface (Ocean Retracker)



739.19 km 729.08 km Range Ocean (1 Hz) 9.44 km 14.58 km Range OCOG (1 729.02 km N/A

9.38 km

N/A

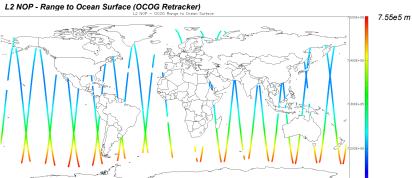
Hz)

734.57 km

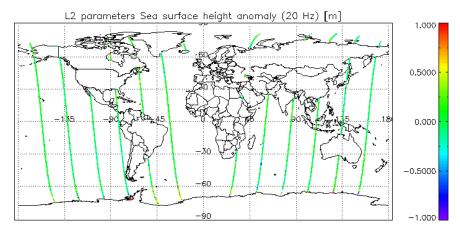
122.13 km

N/A

7.15e5 m

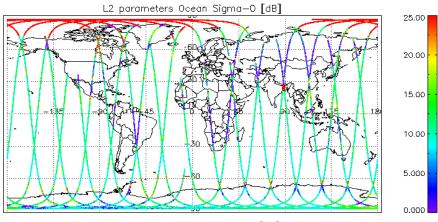


Sea Surface Height Anomaly (20 Hz)



Parameter	NOPM	NOPN	NOPR
SSHA (1 Hz)	mean +/- std	mean +/- std	mean +/- std
35HA (1 HZ)	0.0 +/- 0.2	0.9 +/- 4.0	-0.0 +/- 0.7
CCIIA (20 II=)	mean +/- std	mean +/- std	mean +/- std
SSHA (20 Hz)	0.0 +/- 0.2	1.2 +/- 5.2	-0.0 +/- 1.0

Sigma-0 (Ocean and OCOG retrackers)



Parameter	NOPM	NOPN	NOPR
Ocean Sigma-0	mean +/- std	mean +/- std	mean +/- std
(1 Hz)	11.0 +/- 1.8	11.7 +/- 4.2	12.4 +/- 4.3
Ocean Sigma-0	mean +/- std	mean +/- std	mean +/- std
(20 Hz)	10.4 +/- 3.2	8.8 +/- 12.0	18.3 +/- 10.5
OCOG Sigma-0	mean +/- std	18.3 +/- 10.5	mean +/- std
(1 Hz)	9.2 +/- 2.1	N/A	N/A
OCOG Sigma-0	mean +/- std	0.697	mean +/- std
(20 Hz)	9.8 +/- 5.5	N/A	N/A

L2 parameters OCOG Sigma—0 [dB]	
	25.00
	20.00
10 10 10 10 10 10 10 10 10 10 10 10 10 1	15.00
	10.00
	5.000
	0.000

6. NOP QCC Report Analysis

7.15e5 m

The Quality Control for CryoSat (QCC) facility performs a primary survey of data products immediately after production by the PDS and LTA processing facilities. A list of the tests which raised errors or warnings is provided below.

Product type	No. Products	No. QCC Reports	No. Valid	No. Warnings	No. Errors
SIR_NOPM1B	138	138	4	134	0
SIR_NOPR1B	91	91	0	91	0
SIR_NOPN1B	102	102	1	101	0
SIR_NOPM_2	138	138	80	58	0
SIR_NOPR_2	91	91	22	69	0
SIR_NOPN_2	102	102	34	68	0

6.1 QCC Errors		
Number of QCC reports with errors:	0	
6.2 QCC Warnings		
Number of QCC reports with warnings	0	
7.3 Missing QCC Reports		
Number of products with missing QCC reports:	0	