

1. Overview

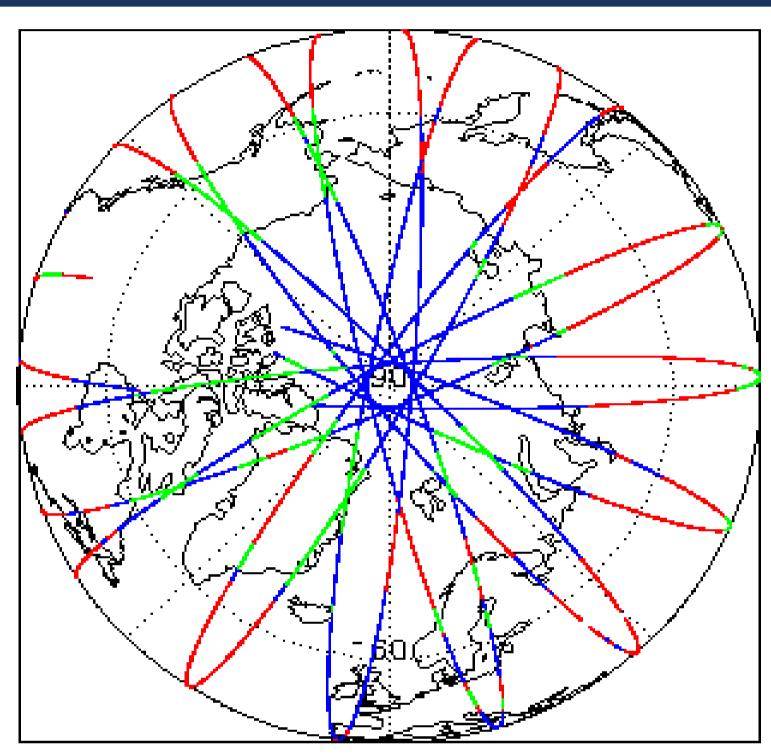
Report Production:	15-Jun-2023	
Processor Used:	CryoSat Ocean Processor	
Data Used:	Geophysical Ocean Products (GOP) L1B, L2 & P2P Science Data	

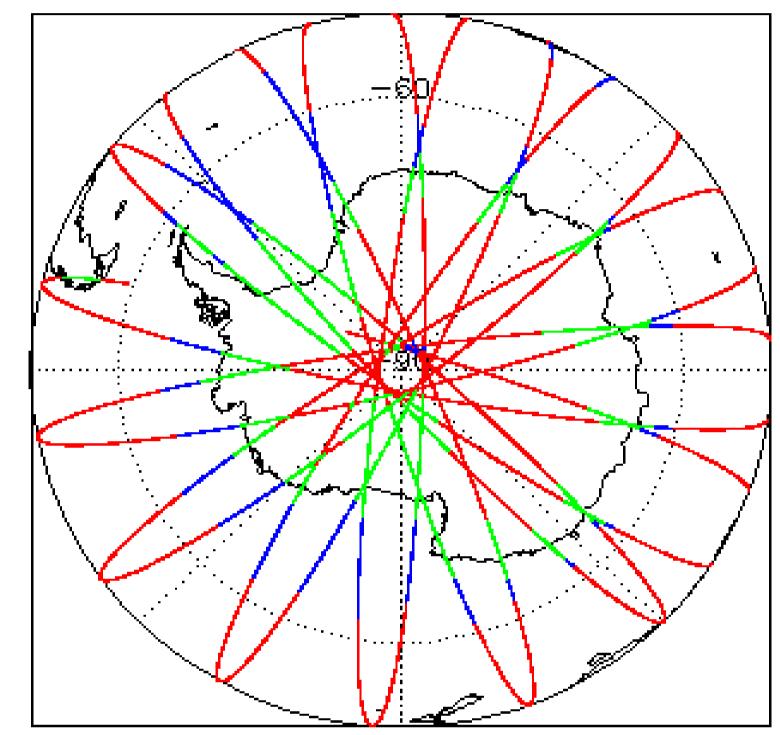
We would love to hear from you!
Please let us know your feedback about these daily
ality reports: What do you like/ dislike? What quality
information do you need? Send your feedback to
cs2_qc_team@telespazio.com

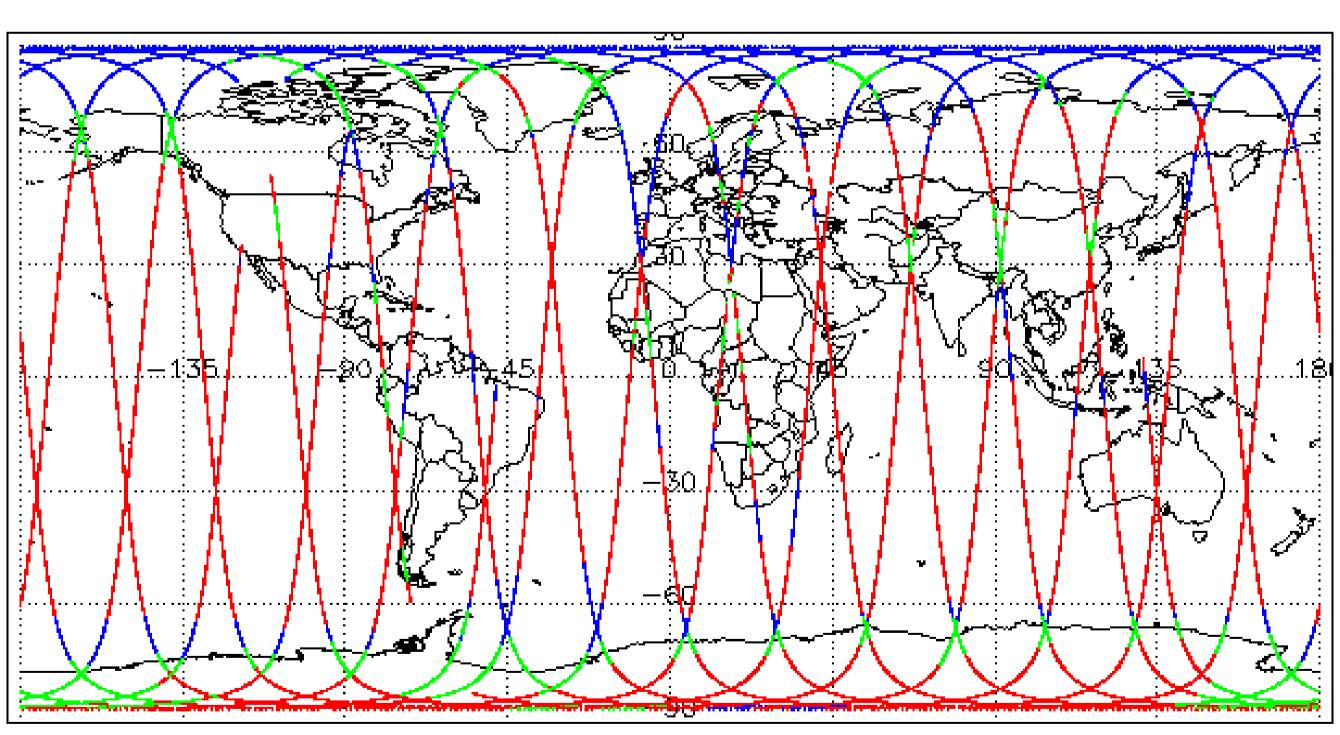
Check	L1 & L2	P2P
Server check: science-pds.cryosat.esa.int	Nominal	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal	Nominal
Product Software Check	Nominal	Nominal
Product Format Check	Nominal	Nominal
Product Header Analysis	Nominal	Nominal
Auxiliary Data File Usage Check	Nominal	Nominal
Auxiliary Correction Error Check	See Section 5.4	See Section 6.4
Measurement Confidence Data Check	See Section 4.5, 4.6 and 5.5	See Section 6.5
Range, SWH & Backscatter Measurement Check	See Section 5.6	See Section 6.6
Ocean Retracking Quality Check	See Section 5.7	See Section 6.7
QCC Error/ Warning Check	See Section 7.1 and 7.2	See Section 7.1, 7.2 and 7.3

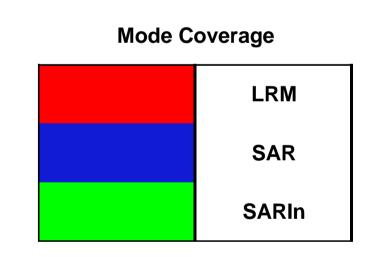
N	lission / Instrument News	
	14-May-2023	None
	15-May-2023	None
	16-May-2023	Nothing planned

2. Global Coverage









3. Instrument Configuration

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

SIRAL instrument(s) in use: SIRAL - A

4. GOP 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 NetCDF product file (.nc).

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 l1b_proc_flag_hr flag is currently set all L1B GOPR and GOPN products because the l1b_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:

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.

Number of products with errors:

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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:

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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 GOPR products due to a configuration issue. This is being investigated and will be updated in the next SW update.

Number of products with errors:

4

Product	Test Failed	Description
CS_OFFL_SIR_GOPM1B_20230515T161539_20230515T162057_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 some products over land, but this is to be expected.

Number of products with errors:

20

Product	Test Failed	Description
CS_OFFL_SIR_GOPM1B_20230515T060553_20230515T060734_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20230515T012014_20230515T012220_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20230515T074335_20230515T074428_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20230515T092606_20230515T092854_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20230515T124128_20230515T124259_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20230515T124455_20230515T124710_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20230515T170057_20230515T170143_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20230515T173705_20230515T174110_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20230515T174825_20230515T174958_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20230515T224618_20230515T225020_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20230515T233928_20230515T234056_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20230515T011824_20230515T012014_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20230515T060841_20230515T060914_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20230515T073447_20230515T073826_C001	Loss of Echo	The tracking echo is missing for one or more records

5. GOP 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 NetCDF product file (.nc).

Number of products with errors:

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.

Number of products with errors:

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).

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

- > ECMWF Meteo Corrections: Currently the following corrections are not computed over CONTINENTAL ICE: Dry Tropospheric Correction, 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. The affected products are not reported in the table below.
- > Sea State Bias & Sea State Bias PLRM: The error value is currently set for products over 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.

Product	Test Failed	Description
CS_OFFL_SIR_GOPM_2_20230515T055806_20230515T055816_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPM_2_20230515T161335_20230515T161415_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230515T001841_20230515T002249_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_GOPN_2_20230515T010906_20230515T010922_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230515T011550_20230515T011655_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_GOPN_2_20230515T015849_20230515T020043_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230515T020904_20230515T021052_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230515T033823_20230515T033942_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230515T042919_20230515T043056_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_GOPN_2_20230515T043431_20230515T043504_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_GOPN_2_20230515T051947_20230515T052149_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT and solution 2: FES) and the Non-Equilibrium Long Period Ocean Tide for one or more records
CS_OFFL_SIR_GOPN_2_20230515T061311_20230515T061319_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_GOPN_2_20230515T065737_20230515T070058_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_GOPN_2_20230515T070622_20230515T070740_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230515T083634_20230515T083954_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_GOPN_2_20230515T092606_20230515T092854_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_GOPN_2_20230515T101305_20230515T101504_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230515T102344_20230515T102515_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_GOPN_2_20230515T110654_20230515T110755_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_GOPN_2_20230515T120110_20230515T120315_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_GOPN_2_20230515T124455_20230515T124710_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_GOPN_2_20230515T133125_20230515T133311_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230515T134816_20230515T135049_C001		There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 2: FES) and the Non-Equilibrium Long Period Ocean Tide for one or more records
CS_OFFL_SIR_GOPN_2_20230515T142125_20230515T142540_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230515T142605_20230515T142653_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_GOPN_2_20230515T152047_20230515T152252_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230515T173705_20230515T174110_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230515T200935_20230515T201101_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230515T201613_20230515T201915_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_GOPN_2_20230515T214950_20230515T215252_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230515T215516_20230515T220031_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_GOPN_2_20230515T224618_20230515T225020_C001	Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non- Equilibrium Long Period Ocean Tide	There is an error with the Mean Dynamic Topography height (solution 1), Total Geocentric Ocean Tide (solution 1: GOT and solution 2: FES) and the Non-Equilibrium Long Period Ocean Tide for one or more records
CS_OFFL_SIR_GOPN_2_20230515T232830_20230515T233228_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_GOPR_2_20230515T001812_20230515T001840_C001	Mean Sea Surface (1)	There is an error with the MSS height (solution 1) for one or more records
CS_OFFL_SIR_GOPR_2_20230515T010923_20230515T011000_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPR_2_20230515T011016_20230515T011056_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPR_2_20230515T011123_20230515T011319_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_GOPR_2_20230515T011319_20230515T011550_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the GPD Wet Tropospheric correction, the MSS height (solution 1) and tidal corrections for one or more records
CS_OFFL_SIR_GOPR_2_20230515T024907_20230515T025504_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_GOPR_2_20230515T043056_20230515T043431_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_GOPR_2_20230515T043505_20230515T043525_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_GOPR_2_20230515T055817_20230515T055854_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPR_2_20230515T060416_20230515T060553_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPR_2_20230515T060917_20230515T061310_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_GOPR_2_20230515T061320_20230515T061729_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_GOPR_2_20230515T074806_20230515T075629_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_GOPR_2_20230515T092854_20230515T093638_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_GOPR_2_20230515T110756_20230515T111340_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_GOPR_2_20230515T111351_20230515T111513_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records
CS_OFFL_SIR_GOPR_2_20230515T124711_20230515T125236_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_GOPR_2_20230515T142541_20230515T142604_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_GOPR_2_20230515T142654_20230515T143102_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_GOPR_2_20230515T160404_20230515T161334_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_GOPR_2_20230515T174111_20230515T174824_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_GOPR_2_20230515T192021_20230515T192706_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_GOPR_2_20230515T223848_20230515T224002_C001	Mean Dynamic Topography (1), Total Geocentric Ocean Tide (FES), Non- Equilibrium Long Period Ocean Tide	There is an error with the Mean Dynamic Topography height (solution 1), Total Geocentric Ocean Tide (solution 2: FES) and the Non-Equilibrium Long Period Ocean Tide 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_GOPM_2_20230515T161539_20230515T162057_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 (20 Hz)

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.

Product	Test Failed	Description
CS_OFFL_SIR_GOPM_2_20230515T000106_20230515T001545_C001	Ocean Altimeter Range, SSHA, SWH	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_GOPM_2_20230515T002249_20230515T002459_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_GOPM_2_20230515T002546_20230515T003002_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_GOPM_2_20230515T003201_20230515T004713_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_GOPM_2_20230515T004914_20230515T005835_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_GOPM_2_20230515T011655_20230515T011735_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_GOPM_2_20230515T012558_20230515T013625_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_GOPM_2_20230515T014311_20230515T015713_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_GOPM_2_20230515T020043_20230515T020904_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_GOPM_2_20230515T021136_20230515T022819_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_GOPM_2_20230515T031006_20230515T033626_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_GOPM_2_20230515T034226_20230515T034726_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_GOPM_2_20230515T035108_20230515T041535_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_GOPM_2_20230515T044857_20230515T051515_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_GOPM_2_20230515T052149_20230515T052749_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_GOPM_2_20230515T052937_20230515T055803_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_GOPM_2_20230515T060553_20230515T060734_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_GOPM_2_20230515T062049_20230515T065413_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_GOPM_2_20230515T070058_20230515T070621_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_GOPM_2_20230515T070847_20230515T071416_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_GOPM_2_20230515T072704_20230515T072925_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_GOPM_2_20230515T074429_20230515T074806_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_GOPM_2_20230515T075951_20230515T083353_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_GOPM_2_20230515T083954_20230515T084102_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_GOPM_2_20230515T084108_20230515T084515_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_GOPM_2_20230515T084803_20230515T090020_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

22_OFFLIP A COPY LINCOMPTIONS ABOUT THOSE DAY 22_OFFLIP A COPY LINCOMPTION ASSOCIATIONS AND THOSE DAY 22_OFFLIP A COPY LINCOMPTION ASSOCIATIONS AND THOSE DAY 22_OFFLIP A COPY LINCOMPTION ASSOCIATION ASSOCIAT	CS_OFFL_SIR_GOPM_2_20230515T090208_20230515T090650_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
Column	CS_OFFL_SIR_GOPM_2_20230515T093639_20230515T093752_C001		
Description (Color Color Col	CS_OFFL_SIR_GOPM_2_20230515T093854_20230515T101217_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CG. OFF. SR. COM. 2. 2022051FT 1952 2222051FT19151 COM. CG. OFF. SR. COM. 2. 2022051FT 1952 2222051FT19220 COM. CG. OFF. SR. COM. 2. 2022051FT 1952 2222051FT19220 COM. CG. OFF. SR. COM. 2. 2022051FT 1952 2222051FT19220 COM. CG. OFF. SR. COM. 2. 2022051FT 1952 2222051FT19220 COM. CG. OFF. SR. COM. 2. 2022051FT 1952 2222051FT19220 COM. CG. OFF. SR. COM. 2. 2022051FT 1952 2222051FT19220 COM. CG. OFF. SR. COM. 2. 2022051FT 1952 2222051FT19220 COM. CG. OFF. SR. COM. 2. 2022051FT 1952 2222051FT19220 COM. CG. OFF. SR. COM. 2. 2022051FT 1952 2222051FT19220 COM. CG. OFF. SR. COM. 2. 2022051FT 1952 2222051FT19220 COM. CG. OFF. SR. COM. 2. 2022051FT 1952 2222051FT19220 COM. CG. OFF. SR. COM. 2. 2022051FT 1952 2222051FT19200 COM. CG. OFF. SR. COM. 2. 2022051FT 1952 2222051FT19200 COM. CG. OFF. SR. COM. 2. 2022051FT 1952 2222051FT19200 COM. CG. OFF. SR. COM. 2. 2022051FT 1952 2222051FT19200 COM. CG. OFF. SR. COM. 2. 2022051FT 1952 2222051FT19200 COM. CG. OFF. SR. COM. 2. 2022051FT	CS_OFFL_SIR_GOPM_2_20230515T101505_20230515T102001_C001		
Second Col. Set COPPL 2 200001517 10512 200001517 10513 2000001517 10513 200001517 10513 200001517 10513 200001517 105	CS_OFFL_SIR_GOPM_2_20230515T103101_20230515T110218_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
Down Althream Rays, SSR4, 5974 CR. OFFL, SRF, OCREL, 2,0002016/11/00481 200205/011/00491 2	CS_OFFL_SIR_GOPM_2_20230515T112137_20230515T113506_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_OOFML_2.202095 57119507_202000 15719510_ODT CS_OFFL_SIR_OOFML_2.202095 57119507_20200 15719510_ODT CS_OFFL_SIR_OOFML_2.202095 57119507_202000 15719510_ODT CS_OFFL_SIR_OOFML_2.202095 57119507_20200 15719510_ODT CS_OFFL_SIR_OOFML_2.202095 57119507_20200 15719510_ODT CS_OFFL_SIR_OOFML_2.202095 57119507_20200 15719510_ODT CS_OFFL_SIR_OOFML_2.202095 57119507_20200 15719510_ODT CS_OFFL_SI	CS_OFFL_SIR_GOPM_2_20230515T113513_20230515T113518_C001		1
Bedauticite (2,089) CS (OFF, SIR, GOPV 2 202009/ST12055 202009 ST12212 CODY CS (OFF, SIR, GOPV 2 202009/ST12055 202009 ST12212 CODY CS (OFF, SIR, GOPV 2 202009/ST12055 202009 ST12212 CODY CS (OFF, SIR, GOPV 2 202009/ST12055 202009 ST12212 CODY CS (OFF, SIR, GOPV 2 202009/ST12055 202009 ST12212 CODY CS (OFF, SIR, GOPV 2 202009/ST12055 202009 ST12012 CODY CS (OFF, SIR, GOPV 2 202009/ST12055 202009 ST12012 CODY CS (OFF, SIR, GOPV 2 202009/ST12055 202009 ST12012 CODY CS (OFF, SIR, GOPV 2 202009/ST12055 202009 ST12012 CODY CS (OFF, SIR, GOPV 2 202009/ST12055 202009 ST12012 CODY CS (OFF, SIR, GOPV 2 202009/ST12051 202009 ST12012 CODY CS (OFF, SIR, GOPV 2 202009/ST12051 202009 ST12012 CODY CS (OFF, SIR, GOPV 2 202009/ST12051 202009 ST12012 CODY CS (OFF, SIR, GOPV 2 202009/ST12051 202009 ST12051 CODY CS (OFF, SIR, GOPV 2 202009/ST12051 202009 ST12051 CODY CS (OFF, SIR, GOPV 2 202009/ST12051 202009 ST12051 CODY CS (OFF, SIR, GOPV 2 202009/ST12051 202009 ST12051 CODY CS (OFF, SIR, GOPV 2 202009/ST12051 202009 ST12051 CODY CS (OFF, SIR, GOPV 2 202009/ST12051 202009 ST12051 CODY CS (OFF, SIR, GOPV 2 202009/ST12051 202009 ST12051 CODY CS (OFF, SIR, GOPV 2 202009/ST12051 202009 ST12051 CODY CS (OFF, SIR, GOPV 2 202009/ST12051 202009 ST12051 CODY CS (OFF, SIR, GOPV 2 202009/ST12051 202009 ST12051 CODY CS (OFF, SIR, GOPV 2 202009/ST12051 202009 ST12051 CODY CS (OFF, SIR, GOPV 2 202009/ST12051 202009 ST12051 CODY CS (OFF, SIR, GOPV 2 202009/ST12051 202009 ST12051 CODY CS (OFF, SIR, GOPV 2 202009/ST12051 202009 ST12051 CODY CS (OFF, SIR, GOPV 2 202009/ST12051 202009 ST12051 CODY CS (OFF, SIR, GOPV 2 202009/ST12051 CODY CS (OFF,	CS_OFFL_SIR_GOPM_2_20230515T113523_20230515T115147_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
Societation Custley Ocean Attrineer Flange and Basic SHA, SVH and Bas	CS_OFFL_SIR_GOPM_2_20230515T115349_20230515T115900_C001		
and Backscarter Quality, COOG Alternoor Range, SSMA, SVM and Backscarter Quality Fags Backscarter Charles CS_OFFL_SIR_COPM_2_20220515112258 222205151127745 0001 CS_OFFL_SIR_COPM_2_20220515112258 222205151127745 0001 CS_OFFL_SIR_COPM_2_20220515112558 22220515113745_0001 CS_OFFL_SIR_COPM_2_20220515113625_2222051513939_Quality CS_OFFL_SIR_COPM_2_20220515113625_2222051513939_Quality CS_OFFL_SIR_COPM_2_20220515113625_2222051513939_Quality CS_OFFL_SIR_COPM_2_20220515113625_2222051513939_Quality CS_OFFL_SIR_COPM_2_20220515113625_2222051513939_Quality CS_OFFL_SIR_COPM_2_20220515113625_2222051513939_Quality CS_OFFL_SIR_COPM_2_20220515113625_2222051513939_Quality CS_OFFL_SIR_COPM_2_20220515113625_2222051513939_Quality CS_OFFL_SIR_COPM_2_20220515113625_2222051513939_Quality CS_OFFL_SIR_COPM_2_2022051513949_Quality CS_OFFL_SIR_COPM_2_2022051513949_Qualit	CS_OFFL_SIR_GOPM_2_20230515T115907_20230515T115913_C001	•	
and Backacetter Quality, ODOG and Althreeter Range, SEA, SVM are Backacetter Quality Flags have been after Grown or not records CS OFFL SIR GOPM 2 20200515110427 20200515713446 C001 CS OFFL SIR GOPM 2 20200515110427 20200515713446 C001 CS OFFL SIR GOPM 2 202005157130427 202005157133392 C001 CS OFFL SIR GOPM 2 20200515713052 202005157133391 C001 CS OFFL SIR GOPM 2 20200515713625 202005157133391 C001 CS OFFL SIR GOPM 2 20200515713625 202005157133391 C001 CS OFFL SIR GOPM 2 20200515713655 20200515713391 C001 CS OFFL SIR GOPM 2 20200515713655 20200515713651 C001 CS OFFL SIR GOPM 2 20200515713655 20200515713655 C001 CS OFFL SIR GOPM 2 20200515713655 20200515714655 C001 CS OFFL SIR GOPM 2 20200515713655 20200515714655 C001 CS OFFL SIR GOPM 2 20200515713655 20200515714655 C001 CS OFFL SIR GOPM 2 20200515714645 20200515714655 C001 CS OFFL SIR GOPM 2 20200515714655 202005157140020 C001 CS OFFL SIR GOPM 2 20200515714655 C001 CS OFFL SIR GOPM 2 20200515714655 C001 CS OFFL SIR GOPM 2 20200515714655 C001 CS OFFL SIR GOPM 2 20200515714675 202005157140000 C001 CS OFFL SIR GOPM 2 202005157140335 C00005157140000 C001 CS OFFL SIR GOPM 2 202005157140345 C00005157140000 C001 CS OFFL SIR GOPM 2 202005157140345 C00005157140000 C001 CS OFFL SIR GOPM 2 202005157140345 C00005157140000 C001 CS OFFL SIR GOPM 2 202005157140340 C00005157140000 C001 CS OFFL SIR GOPM 2 202005157140340 C00005157140000 C001 CS OFFL SIR GOPM 2 202005157161347 C0000515716000 C001 CS OFFL SIR GOPM 2 202005157161347 C0000515716000 C001 CS OFFL SIR GOPM 2 20200515716000 C000515716000 C001 CS OFFL SIR GOPM 2 20200515716000 C000515716000	CS_OFFL_SIR_GOPM_2_20230515T120859_20230515T122242_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_GOPM_2_20230515T130427_20230515T130509_C001 CS_OFFL_SIR_GOPM_2_20230515T130509_20230515T130509_C001 CS_OFFL_SIR_GOPM_2_20230515T130509_20230515T130509_C001 CS_OFFL_SIR_GOPM_2_20230515T130509_20230515T130509_C001 CS_OFFL_SIR_GOPM_2_20230515T130509_20230515T130509_C001 CS_OFFL_SIR_GOPM_2_20230515T130509_20230515T130509_C001 CS_OFFL_SIR_GOPM_2_20230515T130509_20230515T130509_C001 CS_OFFL_SIR_GOPM_2_20230515T130509_20230515T130509_C001 CS_OFFL_SIR_GOPM_2_20230515T130509_C001 CS_OFFL_SIR_GOPM_2_20230515T150377_C001 CC_OCA_Allimeter Range_SIR_SIR_SIR_SIR_SIR_SIR_SIR_SIR_SIR_SIR	CS_OFFL_SIR_GOPM_2_20230515T122538_20230515T123746_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
and Backscatter Quality Plags have been and the OCOS Altimeter Range and Backscatter Quality Flags have been set for one or more records CS_OFFL_SIR_GOPM_2_202306157133311_202306157133812_C001 CS_OFFL_SIR_GOPM_2_202306157133648_202306157138815_C001 CS_OFFL_SIR_GOPM_2_202306157134648_202306157134815_C001 CS_OFFL_SIR_GOPM_2_202306157134648_202306157134815_C001 CS_OFFL_SIR_GOPM_2_202306157134648_202306157144035_C001 CS_OFFL_SIR_GOPM_2_202306157144035_C002306157144035_C001 CS_OFFL_SIR_GOPM_2_202306157144725_202306157140035_C001 CS_OFFL_SIR_GOPM_2_202306157144725_202306157150031_C001 CS_OFFL_SIR_GOPM_2_202306157162410_202306157154000_C001 CS_OFFL_SIR_GOPM_2_202306157162410_202306157164000_C001 CS_OFFL_SIR_GOPM_2_202306157162410_202306157164000 CS_OFFL_SIR_GOPM_2_202306157162410_202306157164000 CS_OFFL_SIR_GOPM_2_202306157162410_202306157164000 CS_OFFL_SIR_GOPM_2_202306157162410_202306157164000 CS_OFFL_SIR_GOPM_2_202306157162410_202306157164000 CS_OFFL_SIR_GOPM_2_202306157162410_202306157164000 CS_OFFL_SIR_GOPM_2_202306157162410_202306157164000 CS_O	CS_OFFL_SIR_GOPM_2_20230515T130427_20230515T131445_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
Sackscatter Quality CS_OFFL_SIR_GOPM_2_20230515T134648_20230515T134815_C001 CS_OFFL_SIR_GOPM_2_20230515T134648_20230515T134815_C001 CS_OFFL_SIR_GOPM_2_20230515T134648_20230515T140024_C001 CS_OFFL_SIR_GOPM_2_20230515T140054_C001 CS_OFFL_SIR_GOPM_2_20230515T140054_C001 CS_OFFL_SIR_GOPM_2_20230515T140335_20230515T140024_C001 CS_OFFL_SIR_GOPM_2_20230515T140335_20230515T140035_C001 CS_OFFL_SIR_GOPM_2_20230515T140335_20230515T140035_C001 CS_OFFL_SIR_GOPM_2_20230515T140335_20230515T140035_C001 CS_OFFL_SIR_GOPM_2_20230515T140335_20230515T150031_C001 CS_OFFL_SIR_GOPM_2_20230515T140347_20230515T150031_C001 CS_OFFL_SIR_GOPM_2_20230515T151347_20230515T150031_C001 CS_OFFL_SIR_GOPM_2_20230515T151347_20230515T150031_C001 CS_OFFL_SIR_GOPM_2_20230515T162410_20230515T164000_C001 CS_OFFL_SIR_GOPM_2_20230515T162410_20230515T164000_C001 CS_OFFL_SIR_GOPM_2_20230515T162410_20230515T164000_C001 CS_OFFL_SIR_GOPM_2_20230515T162407_20230515T162151_C001 CS_OFFL_SIR_GOPM_2_20230515T162407_20230515T164000_C001 CS_OFFL_SIR_GOPM_2_20230515T165664_C001 CCG_OFFL_SIR_GOPM_2_20230515T165664_C001 CCG_OFFL_SIR_GOPM_2_20230515T1656661_20230515T170018_C001 CCG_OFFL_SIR_GOPM_2_20230515T1656661_20230515T170018_C001 CCG_OFFL_SIR_GOPM_2_20230515T165661_20230515T170018_C001 CCG_OFFL_SIR_GOPM_2_20230515T165661_20230515T170018_C001 CCG_OFFL_SIR_GOPM_2_20230515T165661_20230515T170018_C001 CCG_OFFL_SIR_GOPM_2_20230515T165661_20230515T170018_C001 CCG_OFFL_SIR_GOPM_2_20230515T165661_20230515T170018_C001 CCG_OFFL_SIR_GOPM_2_2023051	CS_OFFL_SIR_GOPM_2_20230515T131625_20230515T133039_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
and Backscatter Quality, CCOG Allimeter Range and Backscatter Quality CSOG Allimeter Range and Backscatter Quality CSOG Allimeter Range and Backscatter Quality CSOG Allimeter Range, SSHA, SWH and Backscatter Quality, CCOG Allimeter Range and Backscatter Quality, CCOG Allimeter Range and Backscatter Quality, CCOG Allimeter Range, SSHA, SWH and Backscatter Quality, CCOG Allimeter Range and Backscatter Quality, CCOG Allimeter Range, SSHA, SWH and Backscatter Quality, CCOG Allimeter Range and Backscatter Quality, CCOG Allimeter Range, SSHA, SWH and Backscatter Quality, CCOG Allimeter Range, SSHA, SWH and Backscatter Quality, CCOG Allimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records CS_OFFL_SIR_GOPM_2_20230515T16513_202030515T16544_C001 CCG_Allimeter Range Quality, CCCOG CCG_Allimeter Range, SSHA, SWH and Backscatter Quality Flags have be	CS_OFFL_SIR_GOPM_2_20230515T133311_20230515T133812_C001		
and Backscatter Quality Altimeter Range and Backscatter Quality CS_OFFL_SIR_GOPM_2_20230515T140335_20230515T150931_C001 CS_OFFL_SIR_GOPM_2_20230515T151347_20230515T150931_C001 CS_OFFL_SIR_GOPM_2_20230515T151347_20230515T15130_C001 CS_OFFL_SIR_GOPM_2_20230515T152410_20230515T154909_C001 CS_OFFL_SIR_GOPM_2_20230515T152410_20230515T162151_C001 CS_OFFL_SIR_GOPM_2_20230515T162144_20230515T162151_C001 CS_OFFL_SIR_GOPM_2_20230515T162144_20230515T166644_C001 CS_OFFL_SIR_GOPM_2_20230515T165130_20230515T166644_C001 CS_OFFL_SIR_GOPM_2_20230515T165130_20230515T166644_C001 CS_OFFL_SIR_GOPM_2_20230515T165130_20230515T166644_C001 CS_OFFL_SIR_GOPM_2_20230515T165130_20230515T170318_C001 CS_OFFL_SIR_GOPM_2_20230515T165130_20230515T170318_C001 CS_OFFL_SIR_GOPM_2_20230515T165130_20230515T170318_C001 CS_OFFL_SIR_GOPM_2_20230515T165130_20230515T170318_C001 CS_OFFL_SIR_GOPM_2_20230515T165130_20230515T170318_C001 CS_OFFL_SIR_GOPM_2_20230515T165130_20230515T170318_C001 CCOCQ Altimeter Range Quality, COCG Backscatter Quality CCOCQ Altimeter Range and Backscatter Quality Flags have been set for one or more records CCOCQ Altimeter Range and Backscatter Quality Flags have been set for one or more records CCOCQ Altimeter Range Quality, COCG Backscatter Quality, COCG CCOCQ Altimeter Range and Backscatter Quality Flags have been set for one or more records CCOCQ Altimeter Range and Backscatter Quality Flags have been set for one or more records CCOCQ Altimeter Range Quality, COCG CCCQ Altimeter Range and Backscatter Quality Flags have been set for one or more records CCCQ Altimeter Range and Backscatter Quality Flags hav	CS_OFFL_SIR_GOPM_2_20230515T134648_20230515T134815_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
and Backscatter Quality, COG Altimeter Range and Backscatter Quality Flags have been set for one or more records The OCGA Altimeter Range and Backscatter Quality Flags have been set for one or more records The OCGA Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records The OCGA Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records The OCGA Altimeter Range and Backscatter Quality Flags have been set for one or more records The OCGA Altimeter Range and Backscatter Quality Flags have been set for one or more records The OCGA Altimeter Range and Backscatter Quality Flags have been set for one or more records The OCGA Altimeter Range and Backscatter Quality Flags have been set for one or more records The OCGA Altimeter Range and Backscatter Quality Flags have been set for one or more records The OCGA Altimeter Range and Backscatter Quality Flags have been set for one or more records The OCGA Altimeter Range and Backscatter Quality Flags have been set for one or more records The OCGA Altimeter Range and Backscatter Quality Flags have been set for one or more records The OCGA Altimeter Range and Backscatter Quality Flags have been set for one or more records The OCGA Altimeter Range and Backscatter Quality Flags have been set for one or more records The OCGA Altimeter Range and Backscatter Quality Flags have been set for one or more records The OCGA Altimeter Range and Backscatter Quality Flags have been set for one or more records The OCGA Altimeter Range and Backscatter Quality Flags have been set for one or more records The OCGA Altimeter Range and Backscatter Quality Flags have been set for one or more records The OCGA Altimeter Range and Backscatter Quality Flags have been set for one or more records The OCGA Altimeter Range and Backscatter Quality Flags have been set for one or more records The OCGA Altimeter Range and Backscatter Quality Flags have been set for one or more records The OCGA Altimeter Range and B	CS_OFFL_SIR_GOPM_2_20230515T135050_20230515T140024_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
Alimeter Range and Backscatter Quality Flags have been set for one or more records CS_OFFL_SIR_GOPM_2_20230515T151347_20230515T15730_C001 CS_OFFL_SIR_GOPM_2_20230515T151347_20230515T15730_C001 CS_OFFL_SIR_GOPM_2_20230515T152410_20230515T154909_C001 CS_OFFL_SIR_GOPM_2_20230515T152410_20230515T154909_C001 CS_OFFL_SIR_GOPM_2_20230515T162414_20230515T162151_C001 CS_OFFL_SIR_GOPM_2_20230515T162144_20230515T162151_C001 CS_OFFL_SIR_GOPM_2_20230515T162144_20230515T162151_C001 CS_OFFL_SIR_GOPM_2_20230515T162407_20230515T162937_C001 CS_OFFL_SIR_GOPM_2_20230515T162407_20230515T162937_C001 CS_OFFL_SIR_GOPM_2_20230515T165407_20230515T165644_C001 CS_OFFL_SIR_GOPM_2_20230515T165130_20230515T165644_C001 CS_OFFL_SIR_GOPM_2_20230515T165530_20230515T165644_C001 CS_OFFL_SIR_GOPM_2_20230515T165530_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T165651_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T170350_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T170350_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T170350_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T170350_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T170350_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T170018_C001 C	CS_OFFL_SIR_GOPM_2_20230515T140335_20230515T140835_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
Backscatter Quality Gro one or more records CS_OFFL_SIR_GOPM_2_20230515T152410_20230515T154909_C001 CS_OFFL_SIR_GOPM_2_20230515T152410_20230515T154909_C001 CS_OFFL_SIR_GOPM_2_20230515T162144_20230515T162151_C001 CS_OFFL_SIR_GOPM_2_20230515T162144_20230515T162151_C001 CS_OFFL_SIR_GOPM_2_20230515T162144_20230515T162151_C001 CS_OFFL_SIR_GOPM_2_20230515T162407_20230515T162151_C001 CS_OFFL_SIR_GOPM_2_20230515T162407_20230515T162407_20230515T162407_20230515T162407_20230515T162407_20230515T162407_20230515T165644_C001 CS_OFFL_SIR_GOPM_2_20230515T165130_20230515T165644_C001 CS_OFFL_SIR_GOPM_2_20230515T165651_20230515T165644_C001 CS_OFFL_SIR_GOPM_2_20230515T165651_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T165651_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T165651_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T165651_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T165651_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T1700350_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T1700350_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T1700350_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T1700350_20230515T170050_	CS_OFFL_SIR_GOPM_2_20230515T144725_20230515T150931_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records CS_OFFL_SIR_GOPM_2_20230515T162144_20230515T162151_C001 CS_OFFL_SIR_GOPM_2_20230515T162144_20230515T162151_C001 CS_OFFL_SIR_GOPM_2_20230515T162407_20230515T164937_C001 CS_OFFL_SIR_GOPM_2_20230515T162407_20230515T165447_C001 CS_OFFL_SIR_GOPM_2_20230515T165130_20230515T165644_C001 CS_OFFL_SIR_GOPM_2_20230515T1656651_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T1656651_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T1656651_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T170350_20230515T177705_C001 and Backscatter Quality, OCOG Altimeter Range Quality, OCOG Backscatter Quality, OCOG Bac	CS_OFFL_SIR_GOPM_2_20230515T151347_20230515T151730_C001	•	
Backscatter Quality 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_GOPM_2_20230515T165651_20230515T165644_C001 CS_OFFL_SIR_GOPM_2_20230515T165651_20230515T170018_C001 DCOG Altimeter Range Quality, OCOG Backscatter Quality, OCOG Backscatter Quality Flags have been set for one or more records CS_OFFL_SIR_GOPM_2_20230515T165651_20230515T170018_C001 DCOG Altimeter Range Quality, OCOG Backscatter Quality, OCOG Backscatter Quality Flags have been set for one or more records CS_OFFL_SIR_GOPM_2_20230515T165651_20230515T170018_C001 DCOG Altimeter Range Quality, OCOG Backscatter Quality, OCOG Backscatter Quality Flags have been set for one or more records CS_OFFL_SIR_GOPM_2_20230515T170350_20230515T173705_C001 DCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records DCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records	CS_OFFL_SIR_GOPM_2_20230515T152410_20230515T154909_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_GOPM_2_20230515T162407_20230515T164937_C001 and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Set for one or more records CS_OFFL_SIR_GOPM_2_20230515T165130_20230515T165644_C001 CS_OFFL_SIR_GOPM_2_20230515T165651_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T165651_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T165651_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T170350_20230515T173705_C001 and Backscatter Quality, OCOG Altimeter Range Quality, OCOG Backscatter Quality, OCOG	CS_OFFL_SIR_GOPM_2_20230515T162144_20230515T162151_C001	-	
CS_OFFL_SIR_GOPM_2_20230515T1656130_20230515T165644_C001 Backscatter Quality CS_OFFL_SIR_GOPM_2_20230515T165651_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T165651_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T165651_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T165651_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T170350_20230515T170018_C001 CS_OFFL_SIR_GOPM_2_20230515T170350_20230515T173705_C001 CS_OFFL_SIR_GOPM_2_20230515T1	CS_OFFL_SIR_GOPM_2_20230515T162407_20230515T164937_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_GOPM_2_20230515T165651_20230515T170018_C001 Backscatter Quality Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags 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	CS_OFFL_SIR_GOPM_2_20230515T165130_20230515T165644_C001	9	
CS_OFFL_SIR_GOPM_2_20230515T170350_20230515T173705_C001 and Backscatter Quality, OCOG and the OCOG Altimeter Range and Backscatter Quality Flags have been	CS_OFFL_SIR_GOPM_2_20230515T165651_20230515T170018_C001		
	CS_OFFL_SIR_GOPM_2_20230515T170350_20230515T173705_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been

CS_OFFL_SIR_GOPM_2_20230515T180043_20230515T180739_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flag and the OCOG Altimeter Range and Backscatter Quality Flags have be set for one or more records
CS_OFFL_SIR_GOPM_2_20230515T180745_20230515T181835_C001	3 · · · · · · · · · · · · · · · · · · ·	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flag and the OCOG Altimeter Range and Backscatter Quality Flags have be set for one or more records
CS_OFFL_SIR_GOPM_2_20230515T182321_20230515T182858_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Fla and the OCOG Altimeter Range and Backscatter Quality Flags have be set for one or more records
CS_OFFL_SIR_GOPM_2_20230515T183131_20230515T183719_C001		The OCOG Altimeter Range and Backscatter Quality Flags have been for one or more records
CS_OFFL_SIR_GOPM_2_20230515T184323_20230515T191651_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Fla and the OCOG Altimeter Range and Backscatter Quality Flags have be set for one or more records
CS_OFFL_SIR_GOPM_2_20230515T193147_20230515T193216_C001		The OCOG Altimeter Range and Backscatter Quality Flags have been for one or more records
CS_OFFL_SIR_GOPM_2_20230515T195220_20230515T195409_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Fla and the OCOG Altimeter Range and Backscatter Quality Flags have be set for one or more records
CS_OFFL_SIR_GOPM_2_20230515T195537_20230515T200808_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Fland the OCOG Altimeter Range and Backscatter Quality Flags have be set for one or more records
CS_OFFL_SIR_GOPM_2_20230515T201101_20230515T201613_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been for one or more records
CS_OFFL_SIR_GOPM_2_20230515T202238_20230515T205646_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Fland the OCOG Altimeter Range and Backscatter Quality Flags have be set for one or more records
CS_OFFL_SIR_GOPM_2_20230515T210811_20230515T211037_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Fland the OCOG Altimeter Range and Backscatter Quality Flags have be set for one or more records
CS_OFFL_SIR_GOPM_2_20230515T212708_20230515T214616_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Fla and the OCOG Altimeter Range and Backscatter Quality Flags have b set for one or more records
CS_OFFL_SIR_GOPM_2_20230515T220222_20230515T223458_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Fland the OCOG Altimeter Range and Backscatter Quality Flags have be set for one or more records
CS_OFFL_SIR_GOPM_2_20230515T225105_20230515T231014_C001	y ' '	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Fland the OCOG Altimeter Range and Backscatter Quality Flags have be set for one or more records
CS_OFFL_SIR_GOPM_2_20230515T231030_20230515T232317_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Fland the OCOG Altimeter Range and Backscatter Quality Flags have be set for one or more records
CS_OFFL_SIR_GOPM_2_20230515T233609_20230515T233928_C001		The OCOG Altimeter Range and Backscatter Quality Flags have been for one or more records
CS_OFFL_SIR_GOPM_2_20230515T234123_20230515T235650_C001	_	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Fland the OCOG Altimeter Range and Backscatter Quality Flags have be set for one or more records
CS_OFFL_SIR_GOPN_2_20230515T020904_20230515T021052_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Fland the OCOG Altimeter Range and Backscatter Quality Flags have be set for one or more records
CS_OFFL_SIR_GOPN_2_20230515T034141_20230515T034225_C001		The OCOG Altimeter Range and Backscatter Quality Flags have been for one or more records
CS_OFFL_SIR_GOPN_2_20230515T041555_20230515T041705_C001		The OCOG Altimeter Range and Backscatter Quality Flags have been for one or more records
CS_OFFL_SIR_GOPN_2_20230515T052750_20230515T052920_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Fland the OCOG Altimeter Range and Backscatter Quality Flags have be set for one or more records
CS_OFFL_SIR_GOPN_2_20230515T061729_20230515T062049_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Fland the OCOG Altimeter Range and Backscatter Quality Flags have be set for one or more records
CS_OFFL_SIR_GOPN_2_20230515T092606_20230515T092854_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Fland the OCOG Altimeter Range and Backscatter Quality Flags have be set for one or more records
CS_OFFL_SIR_GOPN_2_20230515T110654_20230515T110755_C001	3 · · · · · · · · · · · · · · · · · · ·	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Fland the OCOG Altimeter Range and Backscatter Quality Flags have be set for one or more records
	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been for one or more records
CS_OFFL_SIR_GOPN_2_20230515T162208_20230515T162211_C001	backscatter Quality	

CS_OFFL_SIR_GOPR_2_20230515T004852_20230515T004914_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_GOPR_2_20230515T011016_20230515T011056_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_GOPR_2_20230515T024907_20230515T025504_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records

L2 Quality Flags (20 Hz 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: 93

Product	Test Failed	Description		
CS_OFFL_SIR_GOPN_2_20230515T001632_20230515T001811_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_GOPN_2_20230515T001841_20230515T002249_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_GOPN_2_20230515T003002_20230515T003136_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_GOPN_2_20230515T005836_20230515T005949_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_GOPN_2_20230515T011056_20230515T011122_C001	INTERPOLATION DANAS AND BACKCONTACT INTO HIS	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_GOPN_2_20230515T011550_20230515T011655_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_GOPN_2_20230515T011736_20230515T011824_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_GOPN_2_20230515T012014_20230515T012220_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_GOPN_2_20230515T015849_20230515T020043_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_GOPN_2_20230515T020904_20230515T021052_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_GOPN_2_20230515T023545_20230515T023934_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_GOPN_2_20230515T061729_20230515T062049_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_GOPN_2_20230515T072644_20230515T072703_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_GOPN_2_20230515T073952_20230515T074014_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_GOPN_2_20230515T090650_20230515T091015_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_GOPN_2_20230515T092606_20230515T092854_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_GOPN_2_20230515T102344_20230515T102515_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_GOPN_2_20230515T110654_20230515T110755_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_GOPN_2_20230515T115210_20230515T115348_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_GOPN_2_20230515T124455_20230515T124710_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_GOPN_2_20230515T125236_20230515T125413_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_GOPN_2_20230515T130159_20230515T130427_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_GOPN_2_20230515T134816_20230515T135049_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_GOPN_2_20230515T140025_20230515T140335_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_GOPN_2_20230515T142125_20230515T142540_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_GOPN_2_20230515T142605_20230515T142653_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_GOPN_2_20230515T144040_20230515T144103_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_GOPN_2_20230515T144151_20230515T144551_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_GOPN_2_20230515T151031_20230515T151347_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_GOPN_2_20230515T155232_20230515T155503_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_GOPN_2_20230515T173705_20230515T174110_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_GOPN_2_20230515T183006_20230515T183131_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_GOPN_2_20230515T191812_20230515T192020_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_GOPN_2_20230515T192740_20230515T192846_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_GOPN_2_20230515T193103_20230515T193147_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_GOPN_2_20230515T194642_20230515T194826_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_GOPN_2_20230515T214950_20230515T215252_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_GOPN_2_20230515T215516_20230515T220031_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_GOPN_2_20230515T224618_20230515T225020_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_GOPN_2_20230515T232830_20230515T233228_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_GOPN_2_20230515T233425_20230515T233609_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_GOPN_2_20230515T233928_20230515T234056_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_GOPR_2_20230514T235853_20230515T000106_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_GOPR_2_20230515T004714_20230515T004834_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_GOPR_2_20230515T011123_20230515T011319_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_GOPR_2_20230515T013807_20230515T014150_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_GOPR_2_20230515T023246_20230515T023510_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_GOPR_2_20230515T024759_20230515T024907_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_GOPR_2_20230515T024907_20230515T025504_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_GOPR_2_20230515T033627_20230515T033822_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_GOPR_2_20230515T042611_20230515T042808_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_GOPR_2_20230515T042843_20230515T042919_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_GOPR_2_20230515T043056_20230515T043431_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_GOPR_2_20230515T043505_20230515T043525_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_GOPR_2_20230515T051515_20230515T051747_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_GOPR_2_20230515T060917_20230515T061310_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_GOPR_2_20230515T061320_20230515T061729_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_GOPR_2_20230515T073447_20230515T073826_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_GOPR_2_20230515T074108_20230515T074320_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_GOPR_2_20230515T074806_20230515T075629_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_GOPR_2_20230515T083353_20230515T083634_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_GOPR_2_20230515T092345_20230515T092606_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_GOPR_2_20230515T092854_20230515T093638_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_GOPR_2_20230515T110237_20230515T110242_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_GOPR_2_20230515T110756_20230515T111340_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_GOPR_2_20230515T111739_20230515T112137_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_GOPR_2_20230515T120315_20230515T120322_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_GOPR_2_20230515T120444_20230515T120859_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_GOPR_2_20230515T122243_20230515T122538_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_GOPR_2_20230515T123747_20230515T123816_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_GOPR_2_20230515T123908_20230515T124128_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_GOPR_2_20230515T124300_20230515T124455_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_GOPR_2_20230515T124711_20230515T125236_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_GOPR_2_20230515T141812_20230515T142047_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_GOPR_2_20230515T142541_20230515T142604_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_GOPR_2_20230515T142654_20230515T143102_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_GOPR_2_20230515T143125_20230515T143215_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_GOPR_2_20230515T160404_20230515T161334_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_GOPR_2_20230515T161416_20230515T161539_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_GOPR_2_20230515T170143_20230515T170350_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_GOPR_2_20230515T174111_20230515T174824_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_GOPR_2_20230515T174959_20230515T175346_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_GOPR_2_20230515T184035_20230515T184323_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_GOPR_2_20230515T192021_20230515T192706_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_GOPR_2_20230515T193321_20230515T193548_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_GOPR_2_20230515T201916_20230515T202238_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_GOPR_2_20230515T205853_20230515T210606_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 & 1 Hz PLRM)

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

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

Number of products with errors: 194

5.8 L2 Ocean Retracking Quality Check

L2 Retracking Flags (20 Hz)

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 over land and sea ice, but this is to be expected. The number of products with this error flag set is given below.

Number of products with errors: 55

L2 Retracking Flags (20 Hz 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 GOPR and GOPN products over sea ice, but this is to be expected.

Number of products with errors: 158

6. GOP L2 Pole-to-Pole Data Quality Check

6.1 P2P 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 NetCDF product file (.nc).

Number of products with errors:

6.2 P2P 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.

0

6.3 P2P 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.

Number of products with errors:

6.4 P2P Auxiliary Correction Error Check

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

0

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

- > ECMWF Meteo Corrections: Currently the following corrections are not computed over CONTINENTAL ICE: Dry Tropospheric Correction, 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. The affected products are not reported in the table below.
- > Sea State Bias & Sea State Bias PLRM: The error value is currently set for products over 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:

29

Product	Test Failed	Description
CS_OFFL_SIR_GOP_220230514T233442_20230515T002418_C002	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_GOP_220230515T002418_20230515T011357_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_GOP_220230515T011357_20230515T020332_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_GOP_220230515T020332_20230515T025311_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_GOP_220230515T025311_20230515T034247_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_GOP_220230515T034247_20230515T043226_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_GOP_220230515T043226_20230515T052202_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1), the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_GOP_220230515T052202_20230515T061141_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_GOP_220230515T061141_20230515T070117_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_GOP_220230515T070117_20230515T075055_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_GOP_220230515T075055_20230515T084031_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_GOP_220230515T084031_20230515T093010_C001		There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_GOP_220230515T093010_20230515T101946_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_GOP_220230515T101946_20230515T110925_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_GOP_220230515T110925_20230515T115901_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_GOP_220230515T115901_20230515T124839_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_GOP_220230515T124839_20230515T133815_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_GOP_220230515T133815_20230515T142754_C001		There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1), the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_GOP_220230515T142754_20230515T151730_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_GOP_220230515T151730_20230515T160709_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_GOP_220230515T160709_20230515T165645_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_GOP_220230515T165645_20230515T174624_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_GOP_220230515T174624_20230515T183600_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_GOP_2_20230515T183600_20230515T192538_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_GOP_220230515T192538_20230515T201514_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_GOP_220230515T201514_20230515T210453_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_GOP_220230515T210453_20230515T215429_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_GOP_220230515T215429_20230515T224408_C001		There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1), the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_GOP_220230515T224408_20230515T233343_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1), the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records

6.5 P2P Measurement Confidence Data Check

CryoSat P2P 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_GOP_220230515T160709_20230515T165645_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records

6.6 P2P Measurement Quality Flag Check

P2P Quality Flags (20 Hz)

CryoSat P2P data includes Quality Flags for each 20 Hz, 20 Hz PLRM and 1 Hz measurement record, copied from the corresponding L2 products.

Since the P2P Quality Flags are copied directly from the L2 Quality Flags, please see Section 5.6 for the full list of products affected.

Number of products with errors: 30

P2P Quality Flags (20 Hz PLRM)

Since the P2P Quality Flags are copied directly from the L2 Quality Flags, please see Section 5.6 for the full list of products affected.

Number of products with errors: 30

P2P Quality Flags (1 Hz & 1 Hz PLRM)

Since the P2P Quality Flags are copied directly from the L2 Quality Flags, please see Section 5.6 for the full list of products affected.

Number of products with errors: 30

6.8 P2P Ocean Retracking Quality Check

P2P Retracking Flags (20 Hz)

Cryosat P2P data includes an ocean retracking quality flag (field 19) for each 20 Hz 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 GOPR and GOPN products over sea ice, but this is to be expected.

Number of products with errors: 29

P2P Retracking Flags 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 GOPR and GOPN products over sea ice, but this is to be expected.

Number of products with errors: 30

7. GOP QCC Report Analysis

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_GOPM1B	167	167	3	164	0
SIR_GOPR1B	130	130	0	130	0
SIR_GOPN1B	111	111	1	110	0
SIR_GOPM_2	167	167	114	53	0
SIR_GOPR_2	130	130	43	85	2
SIR_GOPN_2	111	111	45	66	0
SIR_GOP_P2P	29	29	0	27	2

7.1 QCC Errors

Number of QCC reports with errors:

Total number of occurrences of each error

Product Type	RLOBOPNCDF	RL	RL	RLOBOPNCDF	RL	RL	-	-	-	-	-
SIR_GOPR_2	2	2	2	2	2	2					
Product Type	RLOBOPNCDF	RL	RLOBOPNCDF	RL	-	-	-	-	-	-	-
SIR_GOP_2_	2	2	2	2							

Test Description Key:	est Description Key:					
Abbreviation	Test name	Details				
RLOBOPNCDF	RangeLatitudeOrBlankOP_7NetCDF	Latitude should be between -90E7 and 90E7				
RL	RangeLatitude_6	Latitude should be between -90E6 and 90E6				
RL	RangeLatitude_7	Latitude should be between -90E7 and 90E7				
RLOBOPNCDF	RangeLongitudeOrBlankOP_7NetCDF	Longitude should be between -180E7 and 180E7				

Number of QCC reports with warnings

2231

Total number of occurrences of each warning

Dun danat Tara	4 T							
Product Type	BCSHNCDF	IOHHMOOR	MVIOEPFDNCDF	MVIOEPNCDF	MVIONCDF	RBSZOPOEPFDNCDF	RBSZOPOEPFDPLRMNCD	
SIR_GOPM1B	164	0	0	0	0	0	0	
SIR_GOPM_2	0	0	42	40	0	43	0	
SIR_GOPN1B	107	0	0	0	0	0	0	
SIR_GOPN_2	0	0	8	33	4	26	29	
SIR_GOPR1B	123	0	0	0	0	0	0	
SIR_GOPR_2	0	2	33	47	1	26	22	

Product Type	RBSZOPOEPNCDF	RNELPOTONCDF	RPEPOPFDLRMNCDF	RPEPOPFDPLRMSARNC	RPEPOPFDPLRMSINNCDI	RPEPOPFDSARNCDF	RPEPOPFDSINNCDF
SIR_GOPM1B	0	0	0	0	0	0	0
SIR_GOPM_2	37	1	30	0	0	0	0
SIR_GOPN1B	0	0	0	0	0	0	0
SIR_GOPN_2	20	1	0	0	24	0	33
SIR_GOPR1B	0	0	0	0	0	0	0
SIR_GOPR_2	13	7	0	52	0	58	0

Product Type	RPEPOPLRMNCDF	RPEPOPSARNCDF	RPEPOPSINNCDF	RSSBCONCDF	RSSHAOFDNCDF	RSSHAOFDPLRMNCDF	RSSHAONCDF
SIR_GOPM1B	0	0	0	0	0	0	0
SIR_GOPM_2	25	0	0	8	24	0	3
SIR_GOPN1B	0	0	0	0	0	0	0
SIR_GOPN_2	0	0	29	21	45	55	34
SIR_GOPR1B	0	0	0	0	0	0	0
SIR_GOPR_2	0	48	0	3	68	35	9

Product Type	RSWHOEPFDNCDF	RSWHOEPFDPLRMNCDF	RSWHOEPNCDF	SOOHHIFHD	SCSTODHRNCDF	SCSTODNCDF	-
SIR_GOPM1B	0	0	0	0	0	0	
SIR_GOPM_2	37	0	2	0	0	0	
SIR_GOPN1B	0	0	0	0	47	3	
SIR_GOPN_2	29	27	16	2	0	0	
SIR_GOPR1B	0	0	0	0	130	7	
SIR_GOPR_2	35	45	2	5	0	0	

Product Type	IOHHMOOR	MVIOEPFDNCDF	MVIOEPNCDF	MVIONCDF	RBSZOPOEPFDNCDF	RBSZOPOEPFDPLRMNCD	RBSZOPOEPNCDF
SIR_GOP_2_	16	29	29	5	28	17	28

Product Type	RNELPOTONCDF	RPEPOPFDPLRMSINNCD	RPEPOPFDSINNCDF	RPEPOPSINNCDF	RSSBCONCDF	RSSHAOFDNCDF	RSSHAOFDPLRMNCDF
SIR_GOP_2_	6	15		23	21	29	18
Product Type	RSSHAONCDE	RSWHOEPEDNCDE	RSWHOFPEDPI RMNCDE	RSWHOFPNCDF	SPHI POWNCDE	_	_

Product Type	RSSHAONCDF	RSWHOEPFDNCDF	RSWHOEPFDPLRMNCDF	RSWHOEPNCDF	SPHLPQWNCDF	-	-
SIR_GOP_2_	26	29	17	18	29		

Test Description Key:		
Abbreviation	Test name	Details
BCSHNCDF	BurstCounterStep20HzNetCDF	The burst counter should be one higher with regard to the previous burst counter
IOHHMOOR	IndexOf1Hzin20HzMappingOutOfRange	The mapping of 20 Hz to 1 Hz measurements should be in the range 0 to (number of 1 Hz samples - 1)
MVIOEPFDNCDF	MissingValueIntOceanExcludingPolarFD2NetCDF	The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees
MVIOEPNCDF	MissingValueIntOceanExcludingPolarNetCDF	The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees
MVIONCDF	MissingValueIntOceanNetCDF	The value should not be a 'missing value' for surface type 0 only
RBSZOPOEPFDNCDF	RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2NetCDF	The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RBSZOPOEPFDPLRM NCDF	RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2PLRMNetCDF	The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RBSZOPOEPNCDF	RangeBackscatterSigmaZeroOPOceanExcludingPolarNetCDF	The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RNELPOTONCDF	RangeNELPOceanTideOceanNetCDF	The Non-equilibrium long period ocean loading tide height should be between -40mm and 40mm (or missing) for surface type = ocean
RPEPOPFDLRMNCDF	RangePeakinessExcludingPolarOPFD2LRMNetCDF	The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RPEPOPFDPLRMSAR NCDF	RangePeakinessExcludingPolarOPFD2PLRMSARNetCDF	The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RPEPOPFDPLRMSINN CDF	RangePeakinessExcludingPolarOPFD2PLRMSINNetCDF	The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RPEPOPFDSARNCDF	RangePeakinessExcludingPolarOPFD2SARNetCDF	The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RPEPOPFDSINNCDF	RangePeakinessExcludingPolarOPFD2SINNetCDF	The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RPEPOPLRMNCDF	RangePeakinessExcludingPolarOPLRMNetCDF	The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RPEPOPSARNCDF	RangePeakinessExcludingPolarOPSARNetCDF	The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RPEPOPSINNCDF	RangePeakinessExcludingPolarOPSINNetCDF	The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RSSBCONCDF	RangeSeaStateBiasCorrectionOceanNetCDF	The sea state bias correction should be between -500mm and 0mm (or missing) for surface type = ocean
RSSHAOFDNCDF	RangeSeaSurfaceHeightAnomalyOceanFD3NetCDF	The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean
RSSHAOFDPLRMNCD F	RangeSeaSurfaceHeightAnomalyOceanFD3PLRMNetCDF	The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean
RSSHAONCDF	RangeSeaSurfaceHeightAnomalyOceanNetCDF	The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean
	RangeSignificantWaveHeightOceanExcludingPolarFD2NetCDF	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RSWHOEPFDPLRMNC DF	RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RSWHOEPNCDF	RangeSignificantWaveHeightOceanExcludingPolarNetCDF	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
SOOHHIFHD	SameOrOneHigher1HzIndexFor20HzData	The 1 Hz index of a 20 Hz sample should be the same or 1 higher than its previous sample
SCSTODHRNCDF	SequenceCounterStepTODHRNetCDF	The sequence counter should be modulo 4 higher with regard to the previous sequence counter
SCSTODNCDF	SequenceCounterStepTODNetCDF	The sequence counter should be one higher (modulo 16384) with regard to the previous sequence counter
SCSTODNCDF	SequenceCounterStepTODNetCDF	The sequence counter should be one higher (modulo 16384) with regard to the previous sequence counter

7.3 Missing QCC Reports

Number of products with missing QCC reports:

L1B and L2 Product name n/a

P2P Product name

CS_OFFL_SIR_GOP_2__20230515T233343_20230516T002322_C002