

1. Overview

Report Production:	16-Jun-2023	
Processor Used:	CryoSat Ocean Processor	
Data Used:	Geophysical Ocean Products (GOP) L1B, L2 & P2P Science Data	

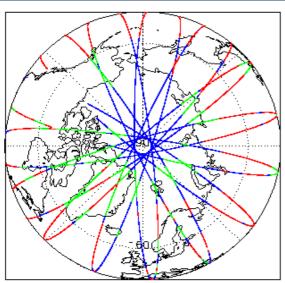
We would love to hear from you!

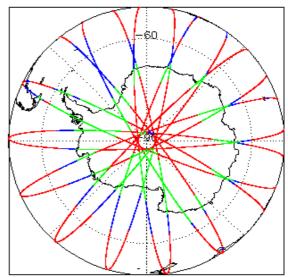
Please let us know your feedback about these daily quality reports: What do you like/ dislike? What quality information do you need? Send your feedback to cs2_qc_team@telespazio.com

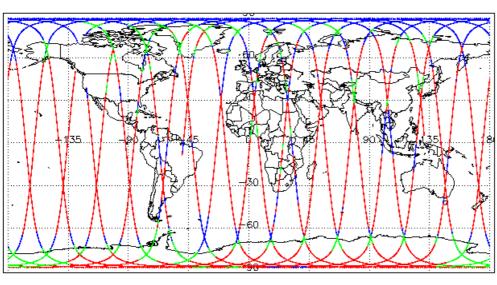
Check	L1 & L2	P2P
Server check: science-pds.cryosat.esa.int	Nominal	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal	Nominal
Product Software Check	Nominal	Nominal
Product Format Check	Nominal	Nominal
Product Header Analysis	Nominal	Nominal
Auxiliary Data File Usage Check	Nominal	Nominal
Auxiliary 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 and 7.2

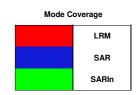
Missic	Mission / Instrument News	
15-M	lay-2023	None
16-M	lay-2023	None
17-M	lay-2023	Nothing planned

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 I1b_proc_flag_hr flag is currently set all L1B GOPR and GOPN products because the I1b_processing_quality_hr field is not correctly configured in the OSAR and OSARIn chains. A modification is required in the next release.

Number of products with errors:

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:

0

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:

0

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_20230516T111942_20230516T113208_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:

13

Product	Test Failed	Description
CS_OFFL_SIR_GOPM1B_20230516T022224_20230516T024601_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPM1B_20230516T084840_20230516T091632_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPM1B_20230516T121203_20230516T122309_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPM1B_20230516T171037_20230516T173841_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPM1B_20230516T225102_20230516T225753_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20230516T010305_20230516T010347_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20230516T020434_20230516T020652_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20230516T065705_20230516T065755_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20230516T101301_20230516T101523_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20230516T115027_20230516T115442_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPN1B_20230516T133110_20230516T133535_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20230516T132935_20230516T133015_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_GOPR1B_20230516T214455_20230516T214604_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:

0

5.4 L2 Auxiliary Correction Error Check

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

Currently, there are some common auxiliary correction errors raised in the Level 2 products 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:

65

Product	Test Failed	Description
CS_OFFL_SIR_GOPM_2_20230516T033514_20230516T033541_C001	liviean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) for one or more records

CS_OFFL_SIR_GOPM_2_20230516T184619_20230516T184711_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) or more records
CS_OFFL_SIR_GOPN_2_20230516T001816_20230516T001952_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) or more records
CS_OFFL_SIR_GOPN_2_20230516T002817_20230516T003054_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 Dyn Topography height (solution 1), the Total Geocentric Ocean Tide 1: GOT and solution 2: FES) and the Non-Equilibrium Long Perio Tide for one or more records
CS_OFFL_SIR_GOPN_2_20230516T010455_20230516T011057_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) or more records
CS_OFFL_SIR_GOPN_2_20230516T020434_20230516T020652_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) or more records
CS_OFFL_SIR_GOPN_2_20230516T020735_20230516T020916_C001	Total Geocentric Ocean Tide (GOT)	There is an error with the Total Geocentric Ocean Tide height (so GOT) for one or more records
CS_OFFL_SIR_GOPN_2_20230516T024713_20230516T024900_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230516T033817_20230516T034020_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230516T042652_20230516T042827_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1 or more records
CS_OFFL_SIR_GOPN_2_20230516T043533_20230516T043820_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230516T051759_20230516T051932_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230516T052236_20230516T052345_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230516T060639_20230516T061027_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230516T064543_20230516T064713_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1 or more records
CS_OFFL_SIR_GOPN_2_20230516T065705_20230516T065755_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1 or more records
CS_OFFL_SIR_GOPN_2_20230516T074618_20230516T074933_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230516T075446_20230516T075606_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1 or more records
CS_OFFL_SIR_GOPN_2_20230516T083601_20230516T083755_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230516T093354_20230516T093503_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1 or more records
CS_OFFL_SIR_GOPN_2_20230516T101301_20230516T101523_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 Dyn Topography height (solution 1), the Total Geocentric Ocean Tide 1: GOT and solution 2: FES) and the Non-Equilibrium Long Peric Tide for one or more records
CS_OFFL_SIR_GOPN_2_20230516T101610_20230516T101729_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230516T115027_20230516T115442_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 (sol Total Geocentric Ocean Tide (solution 1: GOT and solution 2: FE the Non-Equilibrium Long Period Ocean Tide for one or more rec
CS_OFFL_SIR_GOPN_2_20230516T115522_20230516T115641_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230516T124928_20230516T125324_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230516T133110_20230516T133535_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 Dyn Topography height (solution 1) and the Total Geocentric Ocean height (solution 1: GOT) for one or more records
CS_OFFL_SIR_GOPN_2_20230516T134121_20230516T134303_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) or more records
CS_OFFL_SIR_GOPN_2_20230516T142842_20230516T143208_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230516T151007_20230516T151358_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230516T151426_20230516T151526_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Topography height (solution 1) for one or more records
CS_OFFL_SIR_GOPN_2_20230516T160949_20230516T161121_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography (solution 1) or more records
CS_OFFL_SIR_GOPN_2_20230516T182652_20230516T182812_C001	Total Geocentric Ocean Tide (GOT)	There is an error with the Total Geocentric Ocean Tide height (sc GOT) for one or more records

CS_OFFL_SIR_GOPN_2_20230516T192547_20230516T192859_C001 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 There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records There is an error with the Mean Dynamic Topography (solution 1) for one or more records There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (in). Total Geocentric Ocean Tide Height (solution 1) and the Total Geocentric Ocean Tide Height (solution 1) and the Total Geocentric Ocean Tide Height (solution 1) and the Total Geocentric Topography (in). Total Geocentric Ocean Tide Height (solution 1) and the Mean Dynamic Topography (in). Total Geocentric Ocean Tide Height (solution 1) and the Mean Dynamic Topography (in). Total Geocentric Topography height (solution 1) and the Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records There is an error with the MSS height (solution 1) and the Mean Dynamic Topograph
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CS_OFFL_SIR_GOPR_2_20230516T015826_20230516T020433_C001 Topography (1) Topography (1) Topography height (solution 1) for one or more records Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography (1) CS_OFFL_SIR_GOPR_2_20230516T034021_20230516T034406_C001 Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
Topography (1) Topography height (solution 1) for one or more records CS_OFFL_SIR_GOPR_2_20230516T034021_20230516T034406_C001 Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
Topography (1) Topography height (solution 1) for one or more records Mean Sea Surface (1) Mean Dynamic. There is an error with the MSS height (solution 1) and the Mean Dynamic.
Mean Sea Surface (1) Mean Dynamic. There is an error with the MSS height (solution 1) and the Mean Dynamic
CS_OFFL_SIR_GOPR_2_20230516T051932_20230516T052235_C001 Topography (1) Topography height (solution 1) and the Wear Bynamic (Solution 1) and
CS_OFFL_SIR_GOPR_2_20230516T052345_20230516T052448_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_20230516T065755_20230516T070543_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_20230516T083755_20230516T084839_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_20230516T101730_20230516T102457_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_20230516T115641_20230516T120202_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_20230516T133536_20230516T133914_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_20230516T133914_20230516T134120_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_20230516T151358_20230516T151425_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_20230516T151526_20230516T151907_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_20230516T165051_20230516T165818_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_20230516T183023_20230516T183702_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
Mean Sea Surface (1), Mean Dynamic CS_OFFL_SIR_GOPR_2_20230516T235659_20230516T235912_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

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_20230516T111942_20230516T113208_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.

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_GOPM_2_20230515T235853_20230516T000838_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_20230516T002623_20230516T002817_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_20230516T003100_20230516T003309_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_20230516T003443_20230516T004732_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_20230516T010357_20230516T010455_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_20230516T011057_20230516T011347_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_20230516T011400_20230516T011829_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_20230516T012103_20230516T013518_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_20230516T022224_20230516T024601_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_20230516T024900_20230516T025733_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_20230516T030029_20230516T032522_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_20230516T035658_20230516T042450_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_20230516T043114_20230516T043532_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_20230516T043932_20230516T050607_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_20230516T053203_20230516T060348_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_20230516T061028_20230516T061613_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_20230516T061754_20230516T062355_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_20230516T065519_20230516T065611_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_20230516T070917_20230516T074257_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_20230516T074933_20230516T075445_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_20230516T075746_20230516T081559_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_20230516T084840_20230516T091632_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_20230516T091643_20230516T092150_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_20230516T093732_20230516T100322_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_20230516T100453_20230516T101136_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_20230516T102802_20230516T103118_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_20230516T103126_20230516T104613_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
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CS_OFFL_SIR_GOPM_2_20230516T105507_20230516T110114_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_20230516T110311_20230516T110833_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_20230516T111942_20230516T113208_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_20230516T113332_20230516T115023_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_20230516T121203_20230516T122308_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_20230516T122803_20230516T124004_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_20230516T124239_20230516T124733_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_20230516T124752_20230516T124803_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_20230516T124810_20230516T124928_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_20230516T125616_20230516T130039_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_20230516T131357_20230516T132634_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_20230516T132757_20230516T132934_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_20230516T140420_20230516T141915_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_20230516T142215_20230516T142648_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_20230516T142709_20230516T142718_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_20230516T143342_20230516T145631_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_20230516T153330_20230516T155355_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_20230516T155419_20230516T155827_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_20230516T160212_20230516T160602_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_20230516T160624_20230516T160949_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_20230516T161302_20230516T163947_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_20230516T171037_20230516T173841_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_20230516T174030_20230516T174517_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_20230516T174523_20230516T174853_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_20230516T175244_20230516T182652_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_20230516T191147_20230516T191332_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_20230516T191532_20230516T191721_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_20230516T192023_20230516T192547_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_20230516T193213_20230516T200521_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_20230516T201832_20230516T202141_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_20230516T203754_20230516T205612_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_20230516T205950_20230516T210446_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_20230516T211113_20230516T214347_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_20230516T220815_20230516T223225_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_20230516T225102_20230516T225753_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_20230516T225755_20230516T230634_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_20230516T230637_20230516T232245_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_20230516T233559_20230516T233855_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_20230516T234113_20230516T235658_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_GOPN_2_20230516T124928_20230516T125324_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_GOPN_2_20230516T151426_20230516T151526_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_GOPN_2_20230516T183703_20230516T183841_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_GOPN_2_20230516T203444_20230516T203754_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_GOPN_2_20230516T223924_20230516T224159_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_20230516T013713_20230516T013944_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_GOPR_2_20230516T015158_20230516T015217_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_20230516T024601_20230516T024713_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_20230516T042451_20230516T042652_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_GOPR_2_20230516T064416_20230516T064543_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_20230516T070702_20230516T070707_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_20230516T070710_20230516T070742_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_20230516T130810_20230516T131336_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_20230516T200522_20230516T201539_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_GOPR_2_20230516T201808_20230516T201831_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

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:

The OCOG Range and Backscatter Quality Flags have been set for one or OCOG Altimeter Range Quality PLRM. CS_OFFL_SIR_GOPN_2_20230516T000839_20230516T001159_C001 OCOG Backscatter Quality more records Ocean Altimeter Range, SSHA, SWH The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and Backscatter Quality PLRM, OCOG and the OCOG Altimeter Range and Backscatter Quality Flags have been CS OFFL SIR GOPN 2 20230516T001816 20230516T001952 C001 Altimeter Range and Backscatter Quality set for one or more records PLRM Ocean Altimeter Range, SSHA, SWH The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and Backscatter Quality PLRM, OCOG and the OCOG Altimeter Range and Backscatter Quality Flags have been CS OFFL SIR GOPN 2 20230516T002817 20230516T003054 C001 Altimeter Range and Backscatter Quality set for one or more records OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality The OCOG Range and Backscatter Quality Flags have been set for one or CS_OFFL_SIR_GOPN_2_20230516T010305_20230516T010347_C001 more records OCOG Altimeter Range Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or CS OFFL SIR GOPN 2 20230516T011830 20230516T012013 C001 OCOG Backscatter Quality more records OCOG Altimeter Range Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or CS_OFFL_SIR_GOPN_2_20230516T014527_20230516T014617_C001 OCOG Backscatter Quality more records 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 and Backscatter Quality PLRM, OCOG CS OFFL SIR GOPN 2 20230516T020434 20230516T020652 C001 Altimeter Range and Backscatter Quality set for one or more records 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 and Backscatter Quality PLRM, OCOG CS_OFFL_SIR_GOPN_2_20230516T020930_20230516T021006_C001 Altimeter Range and Backscatter Quality set for one or more records PLRM OCOG Altimeter Range Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or CS_OFFL_SIR_GOPN_2_20230516T022101_20230516T022223_C001 OCOG Backscatter Quality more records OCOG Altimeter Range Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or CS_OFFL_SIR_GOPN_2_20230516T024713_20230516T024900_C001 OCOG Backscatter Quality more records 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 and Backscatter Quality PLRM, OCOG CS_OFFL_SIR_GOPN_2_20230516T025734_20230516T025921_C001 Altimeter Range and Backscatter Quality set for one or more records OCOG Altimeter Range Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or CS_OFFL_SIR_GOPN_2_20230516T032847_20230516T032919_C001 OCOG Backscatter Quality more records 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 and Backscatter Quality PLRM, OCOG CS OFFL SIR GOPN 2 20230516T033817 20230516T034020 C001 Altimeter Range and Backscatter Quality OCOG Altimeter Range Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or CS OFFL SIR GOPN 2 20230516T035501 20230516T035658 C001 OCOG Backscatter Quality more records The OCOG Range and Backscatter Quality Flags have been set for one or OCOG Altimeter Range Quality PLRM, CS OFFL SIR GOPN 2 20230516T042652 20230516T042827 C001 OCOG Backscatter Quality more records OCOG Altimeter Range Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or CS OFFL SIR GOPN 2 20230516T042955 20230516T043114 C001 OCOG Backscatter Quality more records Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, 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 GOPN 2 20230516T043533 20230516T043820 C001 Altimeter Range and Backscatter Quality Ocean Altimeter Range, SSHA, SWH The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and Backscatter Quality PLRM, OCOG CS OFFL SIR GOPN 2 20230516T051759 20230516T051932 C001 and the OCOG Altimeter Range and Backscatter Quality Flags have been Altimeter Range and Backscatter Quality set for one or more records PLRM Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS OFFL SIR GOPN 2 20230516T065434 20230516T065518 C001 and the OCOG Altimeter Range and Backscatter Quality Flags have been Altimeter Range and Backscatter Quality PLRM Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS_OFFL_SIR_GOPN_2_20230516T065705_20230516T065755_C001 and the OCOG Altimeter Range and Backscatter Quality Flags have been Altimeter Range and Backscatter Quality set for one or more records PI RM Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records CS OFFL SIR GOPN 2 20230516T070743 20230516T070916 C001 Altimeter Range and Backscatter Quality

PLRM

CS_OFFL_SIR_GOPN_2_20230516T083601_20230516T083755_C001 CS_OFFL_SIR_GOPN_2_20230516T083601_20230516T083755_C001 CS_OFFL_SIR_GOPN_2_20230516T092335_20230516T092743_C001 CS_OFFL_SIR_GOPN_2_20230516T092743_C001 CS_OFFL_SIR_GOPN_2_20230516T092743_C001 CS_OFFL_SIR_GOPN_2_20230516T092743_C001 CS_OFFL_SIR_GOPN_2_20230516T092743_C001 C	
CS_OFFL_SIR_GOPN_2_20230516T092335_20230516T092743_C001 and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flags and Backscatter Quality Flags and Backscatter Quality Flags.	
CS_OFFL_SIR_GOPN_2_20230516T101301_20230516T101523_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality PLRM, or records OCOG Backscatter Quality PLRM, or records	et for one or
CS_OFFL_SIR_GOPN_2_20230516T115027_20230516T115442_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality PLRM, or records OCOG Backscatter Quality PLRM, or records	et for one or
CS_OFFL_SIR_GOPN_2_20230516T115522_20230516T115641_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality The OCOG Range and Backscatter Quality Flags have been so more records	et for one or
CS_OFFL_SIR_GOPN_2_20230516T120943_20230516T121203_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality The OCOG Range and Backscatter Quality Flags have been so more records	et for one or
CS_OFFL_SIR_GOPN_2_20230516T124928_20230516T125324_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 PLRM and Backscatter Quality Flags set for one or more records	
CS_OFFL_SIR_GOPN_2_20230516T125412_20230516T125544_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality PLRM, or records The OCOG Range and Backscatter Quality Flags have been so more records	et for one or
CS_OFFL_SIR_GOPN_2_20230516T132634_20230516T132757_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality PLRM, or records The OCOG Range and Backscatter Quality Flags have been so more records	et for one or
CS_OFFL_SIR_GOPN_2_20230516T133110_20230516T133535_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags set for one or more records	
CS_OFFL_SIR_GOPN_2_20230516T142842_20230516T143208_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality PLRM, or records OCOG Backscatter Quality PLRM, or records	et for one or
CS_OFFL_SIR_GOPN_2_20230516T150755_20230516T150918_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality PLRM, or records The OCOG Range and Backscatter Quality Flags have been seem of the ocog backscatter Quality PLRM, or records	et for one or
CS_OFFL_SIR_GOPN_2_20230516T151426_20230516T151526_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flags and Backscatter Quality Flags are for one or more records	
CS_OFFL_SIR_GOPN_2_20230516T151907_20230516T151943_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 PLRM and Backscatter Quality Flags set for one or more records	
CS_OFFL_SIR_GOPN_2_20230516T152857_20230516T153036_C001 OCOG Altimeter Range Quality PLRM, OCOG Range and Backscatter Quality Flags have been so more records	et for one or
CS_OFFL_SIR_GOPN_2_20230516T160949_20230516T161121_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 PLRM and Backscatter Quality Flags and Backscatter Quality Flags set for one or more records	
CS_OFFL_SIR_GOPN_2_20230516T173906_20230516T174029_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality PLRM, OCOG Backscatter Quality The OCOG Range and Backscatter Quality Flags have been so more records	et for one or
CS_OFFL_SIR_GOPN_2_20230516T174853_20230516T175025_C001 OCOG Altimeter Range Quality PLRM, OCOG Range and Backscatter Quality Flags have been so more records	et for one or
CS_OFFL_SIR_GOPN_2_20230516T182652_20230516T182812_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality The OCOG Range and Backscatter Quality Flags have been so more records	et for one or
CS_OFFL_SIR_GOPN_2_20230516T183703_20230516T183841_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags set for one or more records	
CS_OFFL_SIR_GOPN_2_20230516T185958_20230516T190102_C001 OCOG Altimeter Range Quality PLRM, OCOG Range and Backscatter Quality Flags have been so more records	et for one or
CS_OFFL_SIR_GOPN_2_20230516T190427_20230516T190549_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality PLRM, orce records	et for one or
CS_OFFL_SIR_GOPN_2_20230516T191858_20230516T192022_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality The OCOG Range and Backscatter Quality Flags have been so more records	et for one or
CS_OFFL_SIR_GOPN_2_20230516T192547_20230516T192859_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 PLRM and Backscatter Quality Flags and Backscatter Quality Flags set for one or more records	
CS_OFFL_SIR_GOPN_2_20230516T201709_20230516T201808_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality PLRM, or records The OCOG Range and Backscatter Quality Flags have been so more records	et for one or
CS_OFFL_SIR_GOPN_2_20230516T202502_20230516T202529_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality The OCOG Range and Backscatter Quality Flags have been so more records	et for one or

00 OFFI OID OODN A 00000540T000444 00000540T000774 0004	OCOG Altimeter Range Quality PLRM,	The OCOG Range and Backscatter Quality Flags have been set for one or
CS_OFFL_SIR_GOPN_2_20230516T203444_20230516T203754_C001	OCOG Backscatter Quality	more records
CS_OFFL_SIR_GOPN_2_20230516T210447_20230516T210809_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_20230516T215557_20230516T215735_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_20230516T223924_20230516T224159_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_20230516T224352_20230516T225018_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_20230516T233438_20230516T233558_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_20230516T001953_20230516T002335_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_20230516T002335_20230516T002508_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_20230516T003310_20230516T003442_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_20230516T004733_20230516T005100_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_20230516T005149_20230516T005212_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_20230516T010018_20230516T010305_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_20230516T012013_20230516T012103_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_20230516T015826_20230516T020433_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_20230516T021006_20230516T021227_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_20230516T024601_20230516T024713_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_20230516T033351_20230516T033513_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_20230516T034021_20230516T034406_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_20230516T042451_20230516T042652_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_20230516T050859_20230516T050933_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_20230516T051417_20230516T051758_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_20230516T051932_20230516T052235_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_20230516T052345_20230516T052448_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_20230516T060349_20230516T060639_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_20230516T063324_20230516T063637_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_20230516T065343_20230516T065410_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_20230516T065611_20230516T065704_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_20230516T065755_20230516T070543_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_20230516T070702_20230516T070707_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_20230516T074257_20230516T074617_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_20230516T082828_20230516T082928_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_20230516T082929_20230516T083422_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_20230516T083452_20230516T083601_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_20230516T083755_20230516T084839_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_20230516T101730_20230516T102457_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_20230516T105428_20230516T105507_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_20230516T115641_20230516T120202_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_20230516T125325_20230516T125412_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_20230516T130810_20230516T131336_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_20230516T133536_20230516T133914_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:

2

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:

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: 16

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.

Number of products with errors:

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:

0

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).

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:

Product	Test Failed	Description
CS_OFFL_SIR_GOP_2_20230515T233343_20230516T002322_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_2_20230516T002322_20230516T011258_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_2_20230516T011258_20230516T020237_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_20230516T020237_20230516T025213_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_GOP_2_20230516T025213_20230516T034152_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_20230516T034152_20230516T043128_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_20230516T043128_20230516T052106_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_20230516T052106_20230516T061042_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_20230516T061042_20230516T070021_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_20230516T070021_20230516T074957_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_20230516T074957_20230516T083936_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_20230516T083936_20230516T092912_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_20230516T092912_20230516T101850_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_2_20230516T101850_20230516T110826_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_20230516T110826_20230516T115805_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_2_20230516T115805_20230516T124741_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_20230516T124741_20230516T133720_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_GOP_2_20230516T133720_20230516T142656_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_20230516T142656_20230516T151635_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_20230516T151635_20230516T160611_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_20230516T160611_20230516T165549_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_20230516T165549_20230516T174525_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_20230516T174525_20230516T183504_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_GOP_2_20230516T183504_20230516T192440_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_20230516T192440_20230516T201419_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_20230516T201419_20230516T210355_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_20230516T210355_20230516T215333_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_20230516T215333_20230516T224309_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_20230516T224309_20230516T233248_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_220230516T233248_20230517T002224_C002		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

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_2_20230516T110826_20230516T115805_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:

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: 3

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: 3

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: 2

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:

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	151	151	1	150	0
SIR_GOPR1B	145	145	0	145	0
SIR_GOPN1B	103	103	0	103	0
SIR_GOPM_2	151	151	102	49	0
SIR_GOPR_2	145	145	61	83	1
SIR_GOPN_2	103	103	33	70	0
SIR GOP P2P	29	29	0	28	1

7.1 QCC Errors

Number of QCC reports with errors:

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					Total number	of occurrences	of each error				
Product Type	RLOBOPNCDF	RL	RLOBOPNCDF	RL	-	-	-	-	-	-	-
SIR_GOPR_2	1	1	1	1							
Product Type	RLOBOPNCDF	RL	RLOBOPNCDF	RL	-	-	-	-	-	-	-

Test Description Key:					
Abbreviation	Test name	Details			
RLOBOPNCDF	RangeLatitudeOrBlankOP_7NetCDF	Latitude should be between -90E7 and 90E7			
RL	RangeLatitude_7	Latitude should be between -90E7 and 90E7			
RLOBOPNCDF	RangeLongitudeOrBlankOP_7NetCDF	Longitude should be between -180E7 and 180E7			
RL	RangeLongitude_7	Longitude should be between -180E7 and 180E7			

7.2 QCC Warnings

Number of QCC reports with warnings

2308

Total number of occurrences of each warnin	Total number	of occurrences	of each	warning
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Product Type	BCSHNCDF	IOHHMOOR	MVIOEPFDNCDF	MVIOEPNCDF	MVIONCDF	RBSZOPOEPFDNCDF	RBSZOPOEPFDPLRMNCD
SIR_GOPM1B	150	0	0	0	0	0	0
SIR_GOPM_2	0	0	36	36	0	40	0
SIR_GOPN1B	102	0	0	0	0	0	0
SIR_GOPN_2	0	0	9	34	7	29	27
SIR_GOPR1B	139	0	0	0	0	0	0

SIR_GOPR_2	0	1	34	49	1	37	32
Product Type	RBSZOPOEPNCDF	RNELPOTONCDF	RPEPOPFDLRMNCDF	RPEPOPEDPI RMSARNO	RPEPOPFDPLRMSINNC	IRPEPOPEDS ARNODE	RPEPOPFDSINNCDF
		o contraction	o Contraction	o control enmoderne	2	o .	nii Ei Gi i Boiltitobi
SIR_GOPM1B		0	U	U	U	U	0
SIR_GOPM_2	35	0	30	0	0	0	0
SIR_GOPN1B	0	0	0	0	0	0	0
SIR_GOPN_2	22	1	0	0	26	0	35
SIR_GOPR1B	0	0	0	0	0	0	0
SIR_GOPR_2	23	3	0	53	0	55	0

Product Type	RPEPOPLRMNCDF	RPEPOPSARNCDF	RPEPOPSINNCDF	RSSBCONCDF	RSSHAOFDNCDF	RSSHAOFDPLRMNCDF	RSSHAONCDF
SIR_GOPM1B	0	0	0	0	0	0	0
SIR_GOPM_2	26	0	0	5	22	0	7
SIR_GOPN1B	0	0	0	0	0	0	0
SIR_GOPN_2	0	0	32	23	40	57	33
SIR_GOPR1B	0	0	0	0	0	0	0
SIR_GOPR_2	0	53	0	7	71	43	5

Product Type	RSWHOEPFDNCDF	RSWHOEPFDPLRMNCDF	RSWHOEPNCDF	SOOHHIFHD	SCSTODHRNCDF	SCSTODNCDF	-
SIR_GOPM1B	0	0	0	0	0	0	
SIR_GOPM_2	30	0	6	0	0	0	
SIR_GOPN1B	0	0	0	0	50	2	
SIR_GOPN_2	29	31	15	4	0	0	
SIR_GOPR1B	0	0	0	0	145	11	
SIR_GOPR_2	34	51	5	2	0	0	

Product Type	IOHHMOOR	MVIOEPFDNCDF	MVIOEPNCDF	MVIONCDF	RBSZOPOEPFDNCDF	RBSZOPOEPFDPLRMNCD	RBSZOPOEPNCDF
SIR_GOP_2_	14	29	29	7	29	19	28

Product Type	RNELPOTONCDF	RPEPOPFDPLRMSINNCD	RPEPOPFDSINNCDF	RPEPOPSINNCDF	RSSBCONCDF	RSSHAOFDNCDF	RSSHAOFDPLRMNCDF
SIR_GOP_2_	4	17	29	23	22	29	19

Product Type	RSSHAONCDF	RSWHOEPFDNCDF	RSWHOEPFDPLRMNCDF	RSWHOEPNCDF	SPHLPQWNCDF	-	-
SIR_GOP_2_	26	29	20	21	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
RSWHOEPFDNCDF	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

7.3 Missing QCC Reports