

1. Overview

Report Production:	24-May-2023	
Processor Used:	CryoSat Ocean Processor	
Data Used:	Intermediate Ocean Products (IOP) L1B, L2 & P2P Science Data	

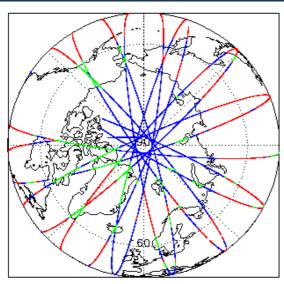
We would love to hear from you!

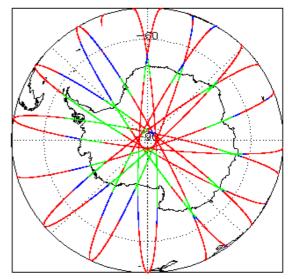
Please let us know your feedback about these daily quality reports: What do you like/ dislike? What quality information do you need? Send your feedback to cs2_qc_team@telespazio.com

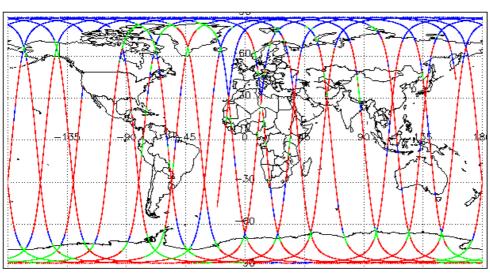
Check	L1 & L2	P2P
Server check: science-pds.cryosat.esa.int	Nominal	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal	Nominal
Product Software Check	Nominal	Nominal
Product Format Check	Nominal	Nominal
Product Header Analysis	Nominal	Nominal
Auxiliary Data File Usage Check	Nominal	Nominal
Auxiliary Correction Error Check	See Section 5.4	See Section 6.4
Measurement Confidence Data Check	See Section 4.5, 4.6	Nominal
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

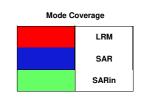
Mission / Instrument News		
04-Apr-2020	None	
05-Apr-2020	None	
06-Apr-2020	Nothing planned	

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. IOP 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.

Number of products with errors:

0

4.3 L1B Auxilary Data File Usage Check

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

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 IOPR products due to a configuration issue. The attitude correction is actually not missing. This will be resolved in the next SW undate

Number of products with errors:

0

4.6 L1B Waveform Group Data Check

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

Loss of Echo Flag: This flag is currently set for products over land, but this is to be expected. The table provides the full list of products flagged.

Number of products with errors:

1/

Product	Test Failed	Description
CS_OFFL_SIR_IOPM1B_20230405T133817_20230405T135146_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20230405T051222_20230405T051712_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20230405T074458_20230405T074625_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20230405T105249_20230405T105658_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20230405T114020_20230405T114105_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20230405T114236_20230405T114606_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPN1B_20230405T145808_20230405T150108_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20230405T000320_20230405T000457_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20230405T064521_20230405T064707_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20230405T082635_20230405T083431_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20230405T100501_20230405T101409_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20230405T133524_20230405T133700_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20230405T142033_20230405T142540_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOPR1B_20230405T213630_20230405T213708_C001	Loss of Echo	The tracking echo is missing for one or more records

5. IOP 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:

0

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:

0

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 which are expected due to surface type. All common flags are summarised in the list below, followed by a table highlighting any additional issues which may arise from this test.

- > ECMWF Meteo Corrections: Currently the following corrections are not computed over CONTINENTAL ICE: Dry Tropospheric 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.
- > Mean Sea Surface: The error value is currently set for products over land and sea ice, but this is to be expected.
- > Mean Dynamic Topography: The error value is currently set for products over land and sea ice, but this is to be expected.
- > Altimetric Wind Speed Error: The error value is currently set for products over land and sea ice, but this is to be expected.

Number of products with errors:

50

Product	Test Failed	Description
		There is an error with the Mean Dynamic Topography (solution 1) and the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records

CS_OFFL_SIR_IOPM_2_20230405T201557_20230405T201620_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPN_2_20230405T005834_20230405T010109_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)
CS_OFFL_SIR_IOPN_2_20230405T015341_20230405T015502_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean	There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1:
CS_OFFL_SIR_IOPN_2_20230405T023402_20230405T023956_C001	Tide (GOT) Mean Sea Surface (1), Mean Dynamic	GOT) for one or more records There is an error with the MSS height (solution 1) and the Mean Dynamic
CS OFFL SIR IOPN 2 20230405T032805 20230405T032907 C001	Topography (1) Mean Dynamic Topography (1)	Topography height (solution 1) There is an error with the Mean Dynamic Topography height (solution 1)
CS OFFL SIR IOPN 2 20230405T033308 20230405T033521 C001	Mean Sea Surface (1), Mean Dynamic	for one or more records There is an error with the MSS height (solution 1) and the Mean Dynamic
CS OFFL SIR IOPN 2 20230405T042622 20230405T042821 C001	Topography (1) Mean Sea Surface (1), Mean Dynamic	Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic
CS OFFL SIR IOPN 2 20230405T051222 20230405T051712 C001	Topography (1) Mean Sea Surface (1), Mean Dynamic	Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic
CS_OFFL_SIR_IOPN_2_20230405T073637_20230405T073905_C001	Topography (1) Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	Topography height (solution 1) There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1) and tidal corrections for one or more records
CS_OFFL_SIR_IOPN_2_20230405T091500_20230405T091813_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)
CS_OFFL_SIR_IOPN_2_20230405T095934_20230405T100101_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 (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records
CS_OFFL_SIR_IOPN_2_20230405T105249_20230405T105658_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)
CS_OFFL_SIR_IOPN_2_20230405T110229_20230405T110354_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)
CS_OFFL_SIR_IOPN_2_20230405T114236_20230405T114606_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 (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records
CS_OFFL_SIR_IOPN_2_20230405T124025_20230405T124208_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)
CS_OFFL_SIR_IOPN_2_20230405T132408_20230405T132504_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)
CS_OFFL_SIR_IOPN_2_20230405T141817_20230405T142033_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)
CS_OFFL_SIR_IOPN_2_20230405T145808_20230405T150108_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 (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT and 2: FES) and the Non-Equilibrium Long Period Ocean Tide for one or more records
CS_OFFL_SIR_IOPN_2_20230405T150213_20230405T150419_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 (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records
CS_OFFL_SIR_IOPN_2_20230405T155711_20230405T160156_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)
CS_OFFL_SIR_IOPN_2_20230405T204740_20230405T204853_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPN_2_20230405T223327_20230405T223635_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 (solution 1) and tidal corrections for one or more records
CS_OFFL_SIR_IOPR_2_20230405T000717_20230405T001343_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)
CS_OFFL_SIR_IOPR_2_20230405T001343_20230405T001510_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)
CS_OFFL_SIR_IOPR_2_20230405T014637_20230405T015228_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)
CS_OFFL_SIR_IOPR_2_20230405T015228_20230405T015341_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)
CS_OFFL_SIR_IOPR_2_20230405T032907_20230405T033004_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)
CS_OFFL_SIR_IOPR_2_20230405T033004_20230405T033308_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)
CS_OFFL_SIR_IOPR_2_20230405T050537_20230405T051222_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)
CS_OFFL_SIR_IOPR_2_20230405T064728_20230405T065249_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)
CS_OFFL_SIR_IOPR_2_20230405T081536_20230405T081735_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPR_2_20230405T082635_20230405T083431_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)
CS_OFFL_SIR_IOPR_2_20230405T100502_20230405T101409_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)

CS_OFFL_SIR_IOPR_2_20230405T114606_20230405T115012_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)
CS_OFFL_SIR_IOPR_2_20230405T115012_20230405T115331_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPR_2_20230405T132504_20230405T133045_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)
CS_OFFL_SIR_IOPR_2_20230405T133059_20230405T133228_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPR_2_20230405T135150_20230405T135338_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPR_2_20230405T150419_20230405T151107_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)
CS_OFFL_SIR_IOPR_2_20230405T163538_20230405T163808_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 (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT and 2: FES) and the Non-Equilibrium Long Period Ocean Tide for one or more records
CS_OFFL_SIR_IOPR_2_20230405T164244_20230405T164508_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)
CS_OFFL_SIR_IOPR_2_20230405T182101_20230405T183057_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)
CS_OFFL_SIR_IOPR_2_20230405T195835_20230405T200519_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)
CS_OFFL_SIR_IOPR_2_20230405T200519_20230405T200613_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPR_2_20230405T201621_20230405T201729_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_IOPR_2_20230405T213710_20230405T214418_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)
CS_OFFL_SIR_IOPR_2_20230405T214418_20230405T214543_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)
CS_OFFL_SIR_IOPR_2_20230405T231621_20230405T232318_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)
CS_OFFL_SIR_IOPR_2_20230405T232318_20230405T232721_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)

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:

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_IOPM_2_20230404T234407_20230405T000235_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_IOPM_2_20230405T002105_20230405T002707_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_IOPM_2_20230405T002813_20230405T005134_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_IOPM_2_20230405T010109_20230405T010302_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_IOPM_2_20230405T010604_20230405T010732_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_IOPM_2_20230405T010956_20230405T011630_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_IOPM_2_20230405T011650_20230405T012557_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_IOPM_2_20230405T013203_20230405T013906_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_IOPM_2_20230405T015502_20230405T015839_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_IOPM_2_20230405T020042_20230405T020624_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_IOPM_2_20230405T020751_20230405T021607_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_IOPM_2_20230405T022226_20230405T023402_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_IOPM_2_20230405T023956_20230405T024217_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_IOPM_2_20230405T024251_20230405T024712_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_IOPM_2_20230405T024902_20230405T025558_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_IOPM_2_20230405T025712_20230405T030353_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_IOPM_2_20230405T030532_20230405T032002_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_IOPM_2_20230405T032014_20230405T032107_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_IOPM_2_20230405T032653_20230405T032719_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_IOPM_2_20230405T034331_20230405T034537_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_IOPM_2_20230405T034707_20230405T034935_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_IOPM_2_20230405T035057_20230405T035521_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_IOPM_2_20230405T035858_20230405T041455_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

Backscatter Quality	OCOG The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_IOPM_2_20230405T042840_20230405T045122_C001 Ocean Altimeter Range, SSHA, and Backscatter Quality, OCOG Altimeter Range and Backscatter	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPM_2_20230405T052919_20230405T055400_C001 Ocean Altimeter Range, SSHA, and Backscatter Quality, OCOG Altimeter Range and Backscatter	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPM_2_20230405T055700_20230405T055849_C001 OCOG Altimeter Range Quality, Backscatter Quality	OCOG The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_IOPM_2_20230405T055947_20230405T060422_C001 OCOG Altimeter Range Quality, Backscatter Quality	OCOG The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_IOPM_2_20230405T060732_20230405T061151_C001	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPM_2_20230405T061247_20230405T063416_C001 Ocean Altimeter Range, SSHA, and Backscatter Quality, OCOG Altimeter Range and Backscatter	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPM_2_20230405T070610_20230405T073305_C001 Ocean Altimeter Range, SSHA, and Backscatter Quality, OCOG Altimeter Range and Backscatter	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPM_2_20230405T073905_20230405T074458_C001 OCOG Altimeter Range Quality, Backscatter Quality	OCOG The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_IOPM_2_20230405T074632_20230405T080602_C001 Ocean Altimeter Range, SSHA, and Backscatter Quality, OCOG Altimeter Range and Backscatter	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPM_2_20230405T080851_20230405T081334_C001 Ocean Altimeter Range, SSHA, and Backscatter Quality, OCOG Altimeter Range and Backscatter	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPM_2_20230405T082353_20230405T082459_C001	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPM_2_20230405T083731_20230405T091207_C001 Ocean Altimeter Range, SSHA, and Backscatter Quality, OCOG Altimeter Range and Backscatter	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPM_2_20230405T091813_20230405T092330_C001 OCOG Altimeter Range Quality, Backscatter Quality	OCOG The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_IOPM_2_20230405T092520_20230405T092810_C001 Ocean Altimeter Range, SSHA, and Backscatter Quality, OCOG Altimeter Range and Backscatter	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPM_2_20230405T093009_20230405T093206_C001 Ocean Altimeter Range, SSHA, and Backscatter Quality, OCOG Altimeter Range and Backscatter	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPM_2_20230405T093544_20230405T094224_C001 OCOG Altimeter Range Quality, Backscatter Quality	OCOG The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_IOPM_2_20230405T100101_20230405T100501_C001 Ocean Altimeter Range, SSHA, and Backscatter Quality, OCOG Altimeter Range and Backscatter	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPM_2_20230405T101736_20230405T102615_C001 Ocean Altimeter Range, SSHA, and Backscatter Quality, OCOG Altimeter Range and Backscatter	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPM_2_20230405T102901_20230405T105121_C001 Ocean Altimeter Range, SSHA, and Backscatter Quality, OCOG Altimeter Range and Backscatter	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPM_2_20230405T105823_20230405T110229_C001 OCOG Altimeter Range Quality, Backscatter Quality	OCOG The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_IOPM_2_20230405T110428_20230405T111735_C001 Ocean Altimeter Range, SSHA, and Backscatter Quality, OCOG Altimeter Range and Backscatter	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPM_2_20230405T111922_20230405T112538_C001 Ocean Altimeter Range, SSHA, and Backscatter Quality, OCOG Altimeter Range and Backscatter	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPM_2_20230405T112712_20230405T113156_C001 Ocean Altimeter Range, SSHA, and Backscatter Quality, OCOG Altimeter Range and Backscatter	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPM_2_20230405T115658_20230405T122951_C001 Ocean Altimeter Range, SSHA, and Backscatter Quality, OCOG Altimeter Range and Backscatter	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_IOPM_2_20230405T123201_20230405T123715_C001 OCOG Altimeter Range Quality, Backscatter Quality	OCOG The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records

CS_OFFL_SIR_IOPM_2_20230405T123734_20230405T124025_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_IOPM_2_20230405T124453_20230405T124514_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_IOPM_2_20230405T124815_20230405T131836_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_IOPM_2_20230405T132021_20230405T132321_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_IOPM_2_20230405T133420_20230405T133423_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_IOPM_2_20230405T133428_20230405T133429_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_IOPM_2_20230405T133817_20230405T135146_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_IOPM_2_20230405T135338_20230405T140917_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_IOPM_2_20230405T141110_20230405T141613_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_IOPM_2_20230405T142540_20230405T143552_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_IOPM_2_20230405T144211_20230405T145351_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_IOPM_2_20230405T151604_20230405T152657_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_IOPM_2_20230405T152917_20230405T153200_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_IOPM_2_20230405T153339_20230405T154808_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_IOPM_2_20230405T155025_20230405T155525_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_IOPM_2_20230405T160156_20230405T162548_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_IOPM_2_20230405T162559_20230405T163538_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_IOPM_2_20230405T163808_20230405T163848_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_IOPM_2_20230405T184130_20230405T190714_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_IOPM_2_20230405T190853_20230405T191358_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_IOPM_2_20230405T192055_20230405T195503_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_IOPM_2_20230405T201125_20230405T201414_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_IOPM_2_20230405T201730_20230405T202749_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_IOPM_2_20230405T204043_20230405T204657_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_IOPM_2_20230405T204853_20230405T205431_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_IOPM_2_20230405T210013_20230405T213352_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_JOPM_2_20230405T220216_20230405T220258_CO01 CS_OFFL_SIR_JOPM_2_20230405T220217_20230405T2202518_CO01 CS_OFFL_SIR_JOPM_2_20230405T220217_20230405T220257_CO01 CS_OFFL_SIR_JOPM_2_20230405T220217_20230405T220257_CO01 CS_OFFL_SIR_JOPM_2_20230405T220217_20230405T220257_CO01 CS_OFFL_SIR_JOPM_2_20230405T220217_20230405T220257_CO01 CS_OFFL_SIR_JOPM_2_20230405T220217_20230405T220257_CO01 CS_OFFL_SIR_JOPM_2_20230405T220217_20230405T220257_CO01 CS_OFFL_SIR_JOPM_2_20230405T220218_CO01 CS_OFFL_SIR_JOPM_2_20230405T220218_CO01 CS_OFFL_SIR_JOPM_2_20230405T220218_CO01 CS_OFFL_SIR_JOPM_2_20230405T220218_CO01 CS_OFFL_SIR_JOPM_2_20230405T220218_CO01 CS_OFFL_SIR_JOPM_2_20230405T202025_CO010 CS_OFFL_SIR_JOPM_2_20230405T202030_20230405T000056_CO01 CS_OFFL_SIR_JOPM_2_20230405T000056_CO01 CS_OFFL_SIR_JOPM_2_20230405T0005656_C001 CS_OFFL_SIR_J	CS_OFFL_SIR_IOPM_2_20230405T214731_20230405T214828_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
and Backscatter Quality, OCOS Altimeter Range and Backscatter Quality Flags have been set for one or more records CS_OFFL_SIR_IOPM_2_20230405T222817_20230405T223327_C001 CS_OFFL_SIR_IOPM_2_20230405T223823_20230405T23338_C001 CS_OFFL_SIR_IOPM_2_20230405T223823_20230405T231338_C001 CS_OFFL_SIR_IOPM_2_20230405T223823_20230405T231338_C001 CS_OFFL_SIR_IOPM_2_20230405T233802_20230405T231338_C001 CS_OFFL_SIR_IOPM_2_20230405T233802_20230405T23138_C001 CS_OFFL_SIR_IOPM_2_20230405T233802_20230405T234226_C001 CS_OFFL_SIR_IOPM_2_20230405T033802_20230405T03442_C001 CS_OFFL_SIR_IOPM_2_20230405T032330_20230405T032442_C001 CS_OFFL_SIR_IOPM_2_20230405T032330_20230405T032444_C001 CS_OFFL_SIR_IOPM_2_20230405T032330_20230405T032444_C001 CS_OFFL_SIR_IOPM_2_20230405T032330_20230405T032444_C001 CS_OFFL_SIR_IOPM_2_20230405T032330_20230405T032544_C001 CS_OFFL_SIR_IOPM_2_20230405T032330_20230405T032544_C001 CS_OFFL_SIR_IOPM_2_20230405T032330_20230405T032544_C001 CS_OFFL_SIR_IOPM_2_20230405T032330_20230405T032544_C001 CS_OFFL_SIR_IOPM_2_20230405T032330_20230405T032544_C001 CS_OFFL_SIR_IOPM_2_20230405T032556_20230405T0325712_C001 CS_OFFL_SIR_IOPM_2_20230405T032556_20230405T0325712_C001 CS_OFFL_SIR_IOPM_2_20230405T032556_20230405T0325712_C001 CCCOA_Altimeter Range Quality, OCOS_Altimeter Range and Backscatter Quality Flags have been set for one or more records CCCOA_Altimeter Range and Backscatter Quality Flags have been set for one or more records CCCOA_Altimeter Range and Backscatter Quality Flags have been set for one or more records CCCOA_Altimeter Range and Backscatter Quality Flags have been set for one or more records CCCOA_Altimeter Range and Backscatter Quality Flags have been set for one or more records CCCOA_Altimeter Range and Backscatter Quality Flags have been set for one or more records CCCOA_Altimeter Range Quality, OCOS_Backscatter Quality Flags have been set for one or more records CCCOA_Altimeter Range Quality, OCOS_Backscatter Quality Flags have been set for one or more records CCCCOA_Altime	CS_OFFL_SIR_IOPM_2_20230405T220216_20230405T220559_C001		, ,
Backscatter Qualty CS_OFFL_SIR_IOPM_2_20230405T223823_20230405T231338_C001 CS_OFFL_SIR_IOPM_2_20230405T223823_20230405T231338_C001 CS_OFFL_SIR_IOPM_2_20230405T233802_20230405T234226_C001 CS_OFFL_SIR_IOPM_2_20230405T233802_20230405T234226_C001 CS_OFFL_SIR_IOPM_2_20230405T233802_20230405T234226_C001 CS_OFFL_SIR_IOPM_2_20230405T233802_20230405T082502_C001 CS_OFFL_SIR_IOPM_2_20230405T082502_20230405T082502_C001 CCC_OCA_Nimeter Range and Backscatter Quality Set for one or more records CCC_OCA_Nimeter Range and Backscatter Quality Set for one or more records CCC_OCA_Nimeter Range and Backscatter Quality Set for one or more records CCC_OCA_Nimeter Range and Backscatter Quality Set for one or more records CCC_OCA_Nimeter Range and Backscatter Quality Set for one or more records CCC_OCA_Nimeter Range and Backscatter Quality Set for one or more records CCC_OCA_Nimeter Range and Backscatter Quality Set for one or more records CCC_OCA_Nimeter Range Quality, OCCO_Nimeter Range and Backscatter Quality Set for one or more records CCC_OCA_Nimeter Range Quality, OCCO_Nimeter Range Quality, OCCO_Nimeter Range and Backscatter Quality Set for one or more records CCC_OCA_Nimeter Range Quality, OCCO_Nimeter Range Quality, OCCO_Nimeter Range and Backscatter Quality Set for one or more recor	CS_OFFL_SIR_IOPM_2_20230405T220702_20230405T222618_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
and Backscatter Quality COGO Altimeter Range and Backscatter Quality Flags have been and the COGO Altimeter Range and Backscatter Quality Flags have been and Backscatter Quality Cogo Altimeter Range (SSHA, SWH and Backscatter Quality Flags have been and Backscatter Quality Cogo Altimeter Range (SSHA, SWH and Backscatter Quality Flags have been and Backscatter Quality Cogo Altimeter Range (SSHA, SWH and Backscatter Quality Flags have been and Backscatter Quality Cogo Altimeter Range (SSHA, SWH and Backscatter Quality Flags have been and Backscatter Quality Cogo Altimeter Range (SSHA, SWH and Backscatter Quality Flags have been set for one or more records) CS_OFFL_SIR_IOPN_2_20230405T092330_20230405T092444_C001 CS_OFFL_SIR_IOPN_2_20230405T092330_20230405T092444_C001 CS_OFFL_SIR_IOPN_2_20230405T095557_20230405T095710_C001 CS_OFFL_SIR_IOPN_2_20230405T095557_20230405T095710_C001 CS_OFFL_SIR_IOPN_2_20230405T133046_20230405T133059_C001 CS_OFFL_SIR_IOPN_2_20230405T095558_20230405T095712_C001 CS_OFFL_SIR_IOPN_2_20230405T095580_20230405T095712_C001 CS_OFFL_SIR_IOPN_2_20230405T095580_20230405T095712_C001 CS_OFFL_SIR_IOPR_2_20230405T095580_20230405T095934_C001 CS_OFFL_SIR_IOPR_2_20230405T095754_20230405T095934_C001 CS_OFFL_SIR_IOPR_2_20230405T095754_20230405T095934_C001 CS_OFFL_SIR_IOPR_2_20230405T095754_20230405T095934_C001 CS_OFFL_SIR_IOPR_2_20230405T095754_20230405T095934_C001 CS_OFFL_SIR_IOPR_2_20230405T195551_20230405T195555_C001 CS_OFFL_SIR_IOPR_2_20230405T195551_20230405T195555_C001 CS_OFFL_SIR_IOPR_2_20230405T195551_20230405T195555_C001 CS_OFFL_SIR_IOPR_2_20230405T195551_20230405T195555_C001 CS_OFFL_SIR_IOPR_2_20230405T195551_20230405T195555_C001 CS_OFFL_SIR_IOPR_2_20230405T195551_20230405T195555_C001 CS_OFFL_SIR_IOPR_2_20230405T195551_20230405T195555_C001 CS_OFFL_SIR_IOPR_2_20230405T195551_20230405T195555_C001 CCOGA Altimeter Range Quality, CCOGA Altimeter Range and Backscatter Quality Flags have been set for one or more records CCOGA Altimeter Range Quality, CCOGA Altimeter Range and Backsc	CS_OFFL_SIR_IOPM_2_20230405T222817_20230405T223327_C001		
and Backscatter Quality, COCG Altimeter Range and Backscatter Quality, COCG Altimeter Range and Backscatter Quality Flags have been at the OCCG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been at the OCCG Altimeter Range, SSHA, SWH and Backscatter Quality, COCG Altimeter Range and Backscatter Quality, COCG Backscatter Quality,	CS_OFFL_SIR_IOPM_2_20230405T223923_20230405T231338_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 at the COG Altimeter Range and Backscatter Quality Flags have been at the COG Altimeter Range and Backscatter Quality Flags have been at the COG Altimeter Range and Backscatter Quality Flags have been at the COG Altimeter Range and Backscatter Quality Flags have been at the COG Altimeter Range and Backscatter Quality Flags have been at the COG Altimeter Range and Backscatter Quality Flags have been at the COG Altimeter Range and Backscatter Quality Flags have been at for one or more records CS_OFFL_SIR_IOPN_2_20230405T095557_20230405T095710_C001 CS_OFFL_SIR_IOPN_2_20230405T095557_20230405T095710_C001 CS_OFFL_SIR_IOPN_2_20230405T133046_20230405T133059_C001 CS_OFFL_SIR_IOPN_2_20230405T03558_20230405T035712_C001 CS_OFFL_SIR_IOPR_2_20230405T02558_20230405T025712_C001 CS_OFFL_SIR_IOPR_2_20230405T082500_20230405T082500_C003 CS_OFFL_SIR_IOPR_2_20230405T082500_20230405T082609_C001 CS_OFFL_SIR_IOPR_2_20230405T082500_20230405T082609_C001 CS_OFFL_SIR_IOPR_2_20230405T095754_20230405T095934_C001 CS_OFFL_SIR_IOPR_2_20230405T113859_20230405T114020_C001 CS_OFFL_SIR_IOPR_2_20230405T113859_20230405T114020_C001 CS_OFFL_SIR_IOPR_2_20230405T195651_20230405T115655_C001 CS_OFFL_SIR_IOPR_2_20230405T195651_20230405T115655_C001 CS_OFFL_SIR_IOPR_2_20230405T195651_20230405T115655_C001 CS_OFFL_SIR_IOPR_2_20230405T195651_20230405T115655_C001 CS_OFFL_SIR_IOPR_2_20230405T195651_20230405T115655_C001 CS_OFFL_SIR_IOPR_2_20230405T195651_20230405T115655_C001 CS_OFFL_SIR_IOPR_2_20230405T195651_20230405T115655_C001 CS_OFFL_SIR_IOPR_2_20230405T195651_20230405T115655_C001 CS_OFFL_SIR_IOPR_2_20230405T195651_20230405T115655_C001 CCGG_Altimeter Range Quality, OCOG_Backscatter Quality, OCOG_Back	CS_OFFL_SIR_IOPM_2_20230405T233802_20230405T234226_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
S_OFFL_SIR_IOPN_2_20230405T092330_20230405T092444_C001 and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records CS_OFFL_SIR_IOPN_2_20230405T095557_20230405T095710_C001 CS_OFFL_SIR_IOPN_2_20230405T133046_20230405T133059_C001 CS_OFFL_SIR_IOPN_2_20230405T133046_20230405T133059_C001 CS_OFFL_SIR_IOPR_2_20230405T025558_20230405T025712_C001 CS_OFFL_SIR_IOPR_2_20230405T082500_20230405T082509_C001 CS_OFFL_SIR_IOPR_2_20230405T082500_20230405T095934_C001 CS_OFFL_SIR_IOPR_2_20230405T095754_20230405T095934_C001 CS_OFFL_SIR_IOPR_2_20230405T13859_20230405T114020_C001 CS_OFFL_SIR_IOPR_2_20230405T113859_20230405T195655_C001 CS_OFFL_SIR_IOPR_2_20230405T195651_20230405T195655_C001 CS_OFFL_SIR_IOPR_2_20230405T195651_20230405T195655_C001 CCOG Altimeter Range Quality, OCOG Backscatter Qualit	CS_OFFL_SIR_IOPM_2_20230405T234319_20230406T000056_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
Backscatter Quality CS_OFFL_SIR_IOPN_2_20230405T133046_20230405T133059_C001 CS_OFFL_SIR_IOPN_2_20230405T133046_20230405T133059_C001 CS_OFFL_SIR_IOPN_2_20230405T133046_20230405T133059_C001 CS_OFFL_SIR_IOPR_2_20230405T025558_20230405T025712_C001 CS_OFFL_SIR_IOPR_2_20230405T025558_20230405T025712_C001 CS_OFFL_SIR_IOPR_2_20230405T082500_20230405T082609_C001 CS_OFFL_SIR_IOPR_2_20230405T082500_20230405T082609_C001 CS_OFFL_SIR_IOPR_2_20230405T095754_20230405T095934_C001 CS_OFFL_SIR_IOPR_2_20230405T195651_20230405T114020_C001 CS_OFFL_SIR_IOPR_2_20230405T195651_20230405T195655_C001 CCOG Altimeter Range Quality, OCOG Backscatter Qual	CS_OFFL_SIR_IOPN_2_20230405T092330_20230405T092444_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, OCOG Altimeter Range and Backscatter Quality CS_OFFL_SIR_IOPR_2_20230405T025558_20230405T025712_C001 OCOG Altimeter Range Quality, OCOG Backscatter Quality, OCOG Backscatter Quality 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 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 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 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 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 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 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	CS_OFFL_SIR_IOPN_2_20230405T095557_20230405T095710_C001		
Backscatter Quality CS_OFFL_SIR_IOPR_2_20230405T082500_20230405T082609_C001 Backscatter Quality CS_OFFL_SIR_IOPR_2_20230405T082500_20230405T082609_C001 CS_OFFL_SIR_IOPR_2_20230405T095754_20230405T095934_C001 CS_OFFL_SIR_IOPR_2_20230405T195655_20230405T114020_C001 CS_OFFL_SIR_IOPR_2_20230405T113859_20230405T114020_C001 CS_OFFL_SIR_IOPR_2_20230405T195651_20230405T195655_C001 Backscatter Quality CS_OFFL_SIR_IOPR_2_20230405T195651_20230405T195655_C001 Backscatter Quality, OCOG Altimeter Range Quality, OCOG Backscatter Quality, OCOG Backscatter Quality 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 CS_OFFL_SIR_IOPR_2_20230405T195651_20230405T195655_C001 CS_OFFL_SIR_IOPR_2_20230405T195651_20230405T195655_C001 CS_OFFL_SIR_IOPR_2_20230405T231338_20230405T2313442_C001 OCOG Altimeter Range Quality, OCOG The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records CS_OFFL_SIR_IOPR_2_20230405T231338_20230405T2313442_C001 OCOG Altimeter Range Quality, OCOG 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	CS_OFFL_SIR_IOPN_2_20230405T133046_20230405T133059_C001	and Backscatter Quality, OCOG	and the OCOG Altimeter Range and Backscatter Quality Flags have been
Backscatter Quality CS_OFFL_SIR_IOPR_2_20230405T082500_20230405T082609_C001 Backscatter Quality CS_OFFL_SIR_IOPR_2_20230405T095754_20230405T095934_C001 CS_OFFL_SIR_IOPR_2_20230405T113859_20230405T114020_C001 CS_OFFL_SIR_IOPR_2_20230405T113859_20230405T114020_C001 CS_OFFL_SIR_IOPR_2_20230405T195651_20230405T195655_C001 CS_OFFL_SIR_IOPR_2_20230405T195651_20230405T195655_C001 CS_OFFL_SIR_IOPR_2_20230405T195651_20230405T195655_C001 CS_OFFL_SIR_IOPR_2_20230405T231338_20230405T231442_C001 CCOG Altimeter Range Quality, OCOG Backscatter Quality Flags have been set for one or more records CS_OFFL_SIR_IOPR_2_20230405T195651_20230405T195655_C001 CCOG Altimeter Range Quality, OCOG Backscatter Quality Flags have been set for one or more records CCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records CCOG Altimeter Range Quality, OCOG Backscatter Quality Flags have been set for one or more records CCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records CCOG Altimeter Range Quality, OCOG Backscatter Quality Flags have been set for one or more records	CS_OFFL_SIR_IOPR_2_20230405T025558_20230405T025712_C001		
Backscatter Quality CS_OFFL_SIR_IOPR_2_20230405T113859_20230405T114020_C001 Backscatter Quality OCOG Altimeter Range Quality, OCOG Backscatter Quality Flags have been set for one or more records OCOG Altimeter Range Quality, OCOG Backscatter Quality Flags have been set for one or more records OCOG Altimeter Range Quality, OCOG Backscatter Quality Flags have been set for one or more records OCOG Altimeter Range Quality, OCOG Backscatter Quality Flags have been set for one or more records OCOG Altimeter Range Quality, OCOG Backscatter Quality Flags have been set for one or more records OCOG Altimeter Range Quality, OCOG Backscatter Quality Flags have been set for one or more records OCOG Altimeter Range Quality, OCOG Backscatter Quality Flags have been set for one or more records	CS_OFFL_SIR_IOPR_2_20230405T082500_20230405T082609_C001		
Backscatter Quality for one or more records CS_OFFL_SIR_IOPR_2_20230405T195651_20230405T195655_C001 Backscatter Quality for one or more records CS_OFFL_SIR_IOPR_2_20230405T195651_20230405T195655_C001 CS_OFFL_SIR_IOPR_2_20230405T231338_20230405T231442_C001 CS_OFFL_SIR_IOPR_2_20230405T231338_20230405T231442_C001 CS_OFFL_SIR_IOPR_2_20230405T231338_20230405T231442_C001	CS_OFFL_SIR_IOPR_2_20230405T095754_20230405T095934_C001		
Backscatter Quality for one or more records OCOG Altimeter Range Quality, OCOG The OCOG Altimeter Range and Backscatter Quality Flags have been set	CS_OFFL_SIR_IOPR_2_20230405T113859_20230405T114020_C001		
	CS_OFFL_SIR_IOPR_2_20230405T195651_20230405T195655_C001		
	CS_OFFL_SIR_IOPR_2_20230405T231338_20230405T231442_C001		

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:

88

Product	Test Failed	Description
CS_OFFL_SIR_IOPN_2_20230405T010302_20230405T010604_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_IOPN_2_20230405T010732_20230405T010927_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_IOPN_2_20230405T013906_20230405T014028_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_IOPN_2_20230405T015839_20230405T020032_C001	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_IOPN_2_20230405T022120_20230405T022226_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_IOPN_2_20230405T024712_20230405T024850_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_IOPN_2_20230405T035547_20230405T035858_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been 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_IOPN_2_20230405T045302_20230405T045620_C001	OCOG Backscatter Quality	more records
CS_OFFL_SIR_IOPN_2_20230405T045709_20230405T045829_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_IOPN_2_20230405T055849_20230405T055947_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_IOPN_2_20230405T060423_20230405T060641_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_IOPN_2_20230405T064431_20230405T064521_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_IOPN_2_20230405T083609_20230405T083731_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_IOPN_2_20230405T092330_20230405T092444_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_IOPN_2_20230405T093540_20230405T093544_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_IOPN_2_20230405T101500_20230405T101524_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_IOPN_2_20230405T105249_20230405T105658_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_IOPN_2_20230405T110229_20230405T110354_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_IOPN_2_20230405T114236_20230405T114606_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_IOPN_2_20230405T123022_20230405T123201_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_IOPN_2_20230405T124025_20230405T124208_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_IOPN_2_20230405T131844_20230405T132021_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_IOPN_2_20230405T143552_20230405T143658_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_IOPN_2_20230405T145808_20230405T150108_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_IOPN_2_20230405T150213_20230405T150419_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_IOPN_2_20230405T155711_20230405T160156_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_IOPN_2_20230405T162548_20230405T162559_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_IOPN_2_20230405T183210_20230405T183227_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_IOPN_2_20230405T191732_20230405T191905_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_IOPN_2_20230405T195503_20230405T195651_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_IOPN_2_20230405T202749_20230405T202944_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_IOPN_2_20230405T203106_20230405T203123_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_IOPN_2_20230405T204740_20230405T204853_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_IOPN_2_20230405T213430_20230405T213524_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, 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
CS_OFFL_SIR_IOPN_2_20230405T215429_20230405T215507_C001	PLRM OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	set for one or more records The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_IOPN_2_20230405T223327_20230405T223635_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, 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_IOPR_2_20230405T000517_20230405T000520_C001	PLRM 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_IOPR_2_20230405T000523_20230405T000526_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_IOPR_2_20230405T000717_20230405T001343_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_IOPR_2_20230405T001343_20230405T001510_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_IOPR_2_20230405T001526_20230405T001924_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_IOPR_2_20230405T005134_20230405T005834_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_IOPR_2_20230405T014637_20230405T015228_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_IOPR_2_20230405T021607_20230405T021821_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_IOPR_2_20230405T025558_20230405T025712_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_IOPR_2_20230405T033004_20230405T033308_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_IOPR_2_20230405T033521_20230405T033643_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_IOPR_2_20230405T033909_20230405T034016_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_IOPR_2_20230405T050537_20230405T051222_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_IOPR_2_20230405T051811_20230405T051923_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_IOPR_2_20230405T064728_20230405T065249_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_IOPR_2_20230405T081536_20230405T081735_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_IOPR_2_20230405T082052_20230405T082256_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_IOPR_2_20230405T082500_20230405T082609_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_IOPR_2_20230405T082635_20230405T083431_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_IOPR_2_20230405T083557_20230405T083609_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_IOPR_2_20230405T095236_20230405T095557_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_IOPR_2_20230405T100502_20230405T101409_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_IOPR_2_20230405T101524_20230405T101736_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_IOPR_2_20230405T105121_20230405T105249_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, 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_IOPR_2_20230405T113859_20230405T114020_C001	PLRM 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_IOPR_2_20230405T115012_20230405T115331_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_IOPR_2_20230405T115351_20230405T115356_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_IOPR_2_20230405T115504_20230405T115658_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_IOPR_2_20230405T133059_20230405T133228_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_IOPR_2_20230405T133524_20230405T133700_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_IOPR_2_20230405T133702_20230405T133728_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_IOPR_2_20230405T133804_20230405T133817_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_IOPR_2_20230405T135150_20230405T135338_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_IOPR_2_20230405T142033_20230405T142540_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_IOPR_2_20230405T143958_20230405T144211_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_IOPR_2_20230405T145351_20230405T145520_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_IOPR_2_20230405T150108_20230405T150206_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_IOPR_2_20230405T150419_20230405T151107_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_IOPR_2_20230405T182101_20230405T183057_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_IOPR_2_20230405T195835_20230405T200519_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_IOPR_2_20230405T201534_20230405T201557_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_IOPR_2_20230405T213525_20230405T213558_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_IOPR_2_20230405T213710_20230405T214418_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_IOPR_2_20230405T214418_20230405T214543_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_IOPR_2_20230405T214605_20230405T214618_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_IOPR_2_20230405T214637_20230405T214731_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_IOPR_2_20230405T214936_20230405T215317_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_IOPR_2_20230405T215521_20230405T215857_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_IOPR_2_20230405T223635_20230405T223923_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_IOPR_2_20230405T231602_20230405T231613_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_IOPR_2_20230405T231621_20230405T232318_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_IOPR_2_20230405T232318_20230405T232721_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.

142

> 1 Hz and 1 Hz Ocean SSHA Quality Flags: These flags are currently set for products over sea ice, which is to be expected. The number of products with this error flag set is given below.

Number of products with errors:

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 IOPR and IOPN products over 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:

6. IOP 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:

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 which are expected due to surface type. All common flags are summarised in the list below, followed by a table highlighting any additional issues which may arise from this check.

- > 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.
- > Mean Sea Surface: The error value is currently set for products over land and sea ice, but this is to be expected.
- > Mean Dynamic Topography: The error value is currently set for products over land and sea ice, but this is to be expected.
- > Altimetric Wind Speed Error: The error value is currently set for products over land and sea ice, but this is to be expected.

Number of products with errors: 28

Mean Sea Surface (1), Mean Dynamic Topography (1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1), the Total Geocentric Ocean Tide (GOT) Mean Sea Surface (1), Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1) Mean Sea Surface (1), Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)	Product	Test Failed	Description
Topography (1) Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1) Topography height (solution 1) There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1): CS_OFFL_SIR_IOP_2_20230405T024137_20230405T024137_C001 CS_OFFL_SIR_IOP_2_20230405T024137_20230405T033113_C001 CS_OFFL_SIR_IOP_2_20230405T033113_20230405T042051_C001 Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)	CS_OFFL_SIR_IOP_2_20230404T232307_20230405T001243_C002		
Topography (1) Mean Sea Surface (1), Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records CS_OFFL_SIR_IOP_2_20230405T024137_20230405T033113_C001 CS_OFFL_SIR_IOP_2_20230405T033113_20230405T042051_C001 Mean Sea Surface (1), Mean Dynamic Topography (1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography height (solution 1)	CS_OFFL_SIR_IOP_2_20230405T001243_20230405T010222_C001	. //	
CS_OFFL_SIR_IOP_2_20230405T015158_20230405T024137_C001 Topography (1), Total Geocentric Ocean Tide (solution 1: Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography height (solution 1) CS_OFFL_SIR_IOP_2_20230405T033113_20230405T042051_C001 Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1)	CS_OFFL_SIR_IOP_2_20230405T010222_20230405T015158_C001		
Topography (1) CS_OFFL_SIR_IOP_2_20230405T033113_20230405T042051_C001 Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)	CS_OFFL_SIR_IOP_2_20230405T015158_20230405T024137_C001	Topography (1), Total Geocentric Ocean	Topography (solution 1), the Total Geocentric Ocean Tide (solution 1:
Topography (1) CS_OFFL_SIR_IOP_2_20230405T042051_20230405T051027_C001 Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1)	CS_OFFL_SIR_IOP_2_20230405T024137_20230405T033113_C001		
Topography (1) Topography height (solution 1) Topography height (solution 1) Mean Sea Surface (1), Mean Dynamic There is an error with the MSS height (solution 1) and the Mean Dynamic	CS_OFFL_SIR_IOP_2_20230405T033113_20230405T042051_C001	. //	
	CS_OFFL_SIR_IOP_2_20230405T042051_20230405T051027_C001		
	CS_OFFL_SIR_IOP_2_20230405T051027_20230405T060006_C001		

CS_OFFL_SIR_IOP_2_20230405T060006_20230405T064942_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)
CS_OFFL_SIR_IOP_2_20230405T064942_20230405T073921_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 (solution 1), and tidal corrections for one or more records
CS_OFFL_SIR_IOP_2_20230405T073921_20230405T082857_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)
CS_OFFL_SIR_IOP_2_20230405T082857_20230405T091836_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)
CS_OFFL_SIR_IOP_2_20230405T091836_20230405T100811_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 (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records
CS_OFFL_SIR_IOP_2_20230405T100811_20230405T105750_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)
CS_OFFL_SIR_IOP_2_20230405T105750_20230405T114726_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 (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records
CS_OFFL_SIR_IOP_2_20230405T114726_20230405T123705_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)
CS_OFFL_SIR_IOP_2_20230405T123705_20230405T132641_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)
CS_OFFL_SIR_IOP_2_20230405T132641_20230405T141619_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)
CS_OFFL_SIR_IOP_2_20230405T141619_20230405T150555_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 (solution 1), and tidal corrections for one or more records
CS_OFFL_SIR_IOP_2_20230405T150555_20230405T155534_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)
CS_OFFL_SIR_IOP_2_20230405T155534_20230405T164510_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 (solution 1), and tidal corrections for one or more records
CS_OFFL_SIR_IOP_2_20230405T182425_20230405T191404_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)
CS_OFFL_SIR_IOP_2_20230405T191404_20230405T200340_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)
CS_OFFL_SIR_IOP_2_20230405T200340_20230405T205318_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)
CS_OFFL_SIR_IOP_2_20230405T205318_20230405T214254_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)
CS_OFFL_SIR_IOP_2_20230405T214254_20230405T223233_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)
CS_OFFL_SIR_IOP_2_20230405T223233_20230405T232209_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 (solution 1), and tidal corrections for one or more records
CS_OFFL_SIR_IOP_2_20230405T232209_20230406T001148_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)

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:

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. The number of P2P products affected is given below.

Number of products with errors: 28

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. The number of P2P products affected is given below.

Number of products with errors:

27

28

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 number of L2 products affected. The number of P2P products affected is given below.

Number of products with errors:

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 IOPR and IOPN products over sea ice, but this is to be expected.

Number of products with errors:

27

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 IOPR and IOPN products over sea ice, but this is to be expected.

Number of products with errors:

28

7. IOP 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_IOPM1B	SIR_IOPM1B 178		2	176	0
SIR_IOPR1B	155	99	1	98	0
SIR_IOPN1B	99	155	0	155	0
SIR_IOPM_2	178	178	125	53	0
SIR_IOPR_2	155	99	37	61	1
SIR_IOPN_2	99	155	80	75	0
SIR IOP P2P	27	27	0	26	1

7.1 QCC Errors

Number of QCC reports with errors:

10

Total number of occurrences of each error

	Total number of occurrences of each end										
Product Type	RLOBOPNCDF	RL	RL	RLOBOPNCDF	RL	RL	-	-	-	-	-
SIR_IOPN_2	1	1	1	1	1	1					
Product Type	RLOBOPNCDF	RL	RLOBOPNCDF	RL	-	-	-	-	-	-	-
SIR IOP 2	1	1	1	1							

Test 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			
RL	RangeLongitude_6	Longitude should be between -180E6 and 180E6			
RL	RangeLongitude_7	Longitude should be between -180E7 and 180E7			

7.2 QCC Warnings

SIR_IOP_2

Number of QCC reports with warnings

2050

Total number of occurrences of each warning

	Product Type	BCSHNCDF	IOHHMOOR	MVIOEPFDNCDF	MVIOEPNCDF	MVIONCDF	RBSZOPOEPFDNCDF	RBSZOPOEPFDPLRMNCD		
	SIR_IOPM1B	176	0	0	0	0	0	0		
	SIR_IOPM_2	0	0	37	38	1	34	0		
	SIR_IOPN1B	97	0	0	0	0	0	0		
	SIR_IOPN_2	0	1	6	30	7	20	24		
	SIR_IOPR1B	152	0	0	0	0	0	0		
	SIR IOPR 2	0	0	20	42	1	26	25		

Product Type	RBSZOPOEPNCDF	RNELPOTONCDF	RPEPOPFDLRMNCDF	RPEPOPFDPLRMSARNCI	RPEPOPFDPLRMSINNCD	RPEPOPFDSARNCDF	RPEPOPFDSINNCDF
SIR_IOPM1B	0	0	0	0	0	0	0
SIR_IOPM_2	24	0	34	0	0	0	0
SIR_IOPN1B	0	0	0	0	0	0	0
SIR_IOPN_2	15	0	0	0	19	0	28
SIR_IOPR1B	0	0	0	0	0	0	0
SIR_IOPR_2	12	2	0	40	0	46	0

Product Type	RPEPOPLRMNCDF	RPEPOPSARNCDF	RPEPOPSINNCDF	RSSBCONCDF	RSSHAOFDNCDF	RSSHAOFDPLRMNCDF	RSSHAONCDF
SIR_IOPM1B	0	0	0	0	0	0	0
SIR_IOPM_2	25	0	0	5	29	0	5
SIR_IOPN1B	0	0	0	0	0	0	0
SIR_IOPN_2	0	0	24	17	31	48	29
SIR_IOPR1B	0	0	0	0	0	0	0
SIR_IOPR_2	0	41	0	1	60	20	11

Product Type	RSWHOEPFDNCDF	RSWHOEPFDPLRMNCDF	RSWHOEPNCDF	SPHRTASCNSNCDF	SPHRTASCNSNCDF	SOOHHIFHD	SCSTODHRNCDF
SIR_IOPM1B	0	0	0	0	0	0	0
SIR_IOPM_2	33	0	2	0	0	0	0
SIR_IOPN1B	0	0	0	0	1	0	37
SIR_IOPN_2	30	24	16	1	0	1	0
SIR_IOPR1B	0	0	0	1	1	0	155
SIR IOPR 2	31	43	5	0	0	4	0

Product Type	IOHHMOOR	MVIOEPFDNCDF	MVIOEPNCDF	MVIONCDF	RBSZOPOEPFDNCDF	RBSZOPOEPFDPLRMNCD	RBSZOPOEPNCDF
SIR_IOP_2_	13	26	27	7	27	14	24

Product Type	RNELPOTONCDF	RPEPOPFDPLRMSINNCD	RPEPOPFDSINNCDF	RPEPOPSINNCDF	RSSBCONCDF	RSSHAOFDNCDF	RSSHAOFDPLRMNCDF
SIR_IOP_2_	2	14	24	19	15	27	15

Product Type	RSSHAONCDF	RSWHOEPFDNCDF	RSWHOEPFDPLRMNCDF	RSWHOEPNCDF	SPHLPQWNCDF	†	f
SIR_IOP_2_	24	27	14	16	27		
Product Type	-	-	-	•	•	-	

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
SPHRTASCNSNCDF	SPH_Rel_Time_ASC_Node_Start_v2_NetCDF	Rel_Time_ASC_Node_Start mismatch (DBL ASC, rounded up to 0.1)
SPHRTASCNSNCDF	SPH_Rel_Time_ASC_Node_Stop_v2_NetCDF	Rel_Time_ASC_Node_Stop mismatch
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

7.3 Missing QCC Reports

Number of products with missing QCC reports: