





# 1. Overview

<b>Report Production:</b>	19-Apr-2023	
Processor Used:	CryoSat Ocean Processor	
Data Used:	Near Real Time Ocean Products (NOP) L1B & L2 Science Data	

## We would love to hear from you!

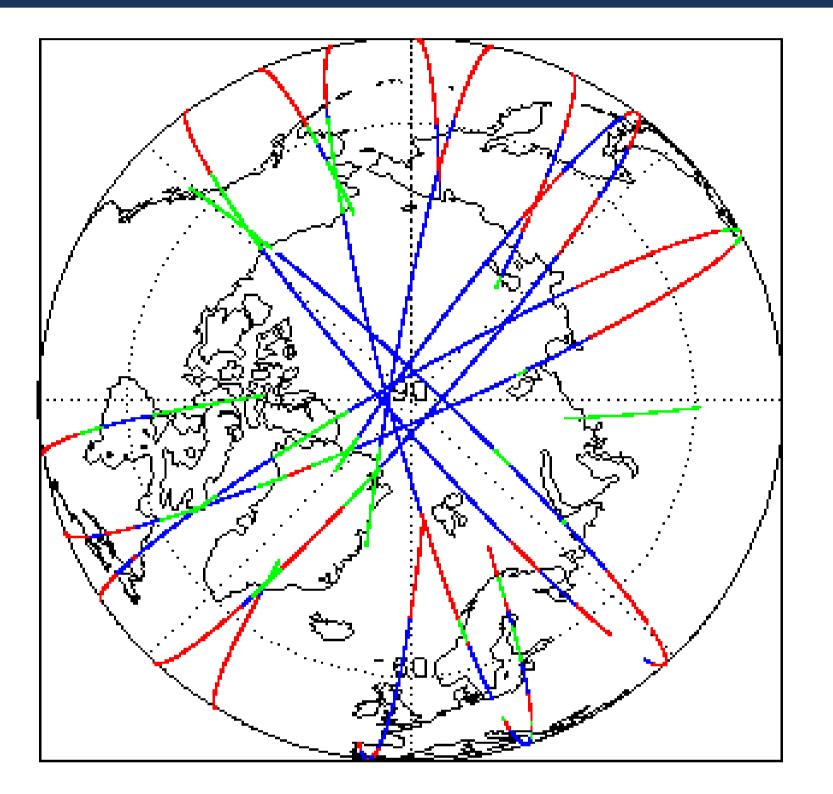
Please let us know your feedback about these daily quality reports: What do you like/ dislike? What quality information do you need? Send your feedback to cs2\_qc\_team@telespazio.com

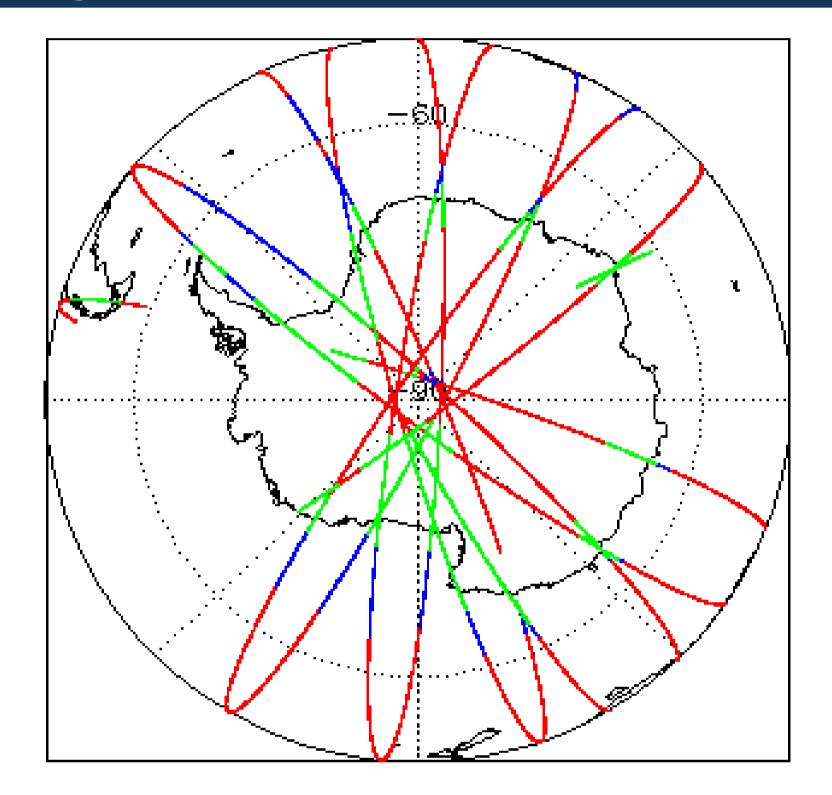
Check	L1 & L2
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	Nominal
Auxiliary Data File Usage Check	Nominal
Auxiliary Correction Error Check	See Section 5.4
Measurement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

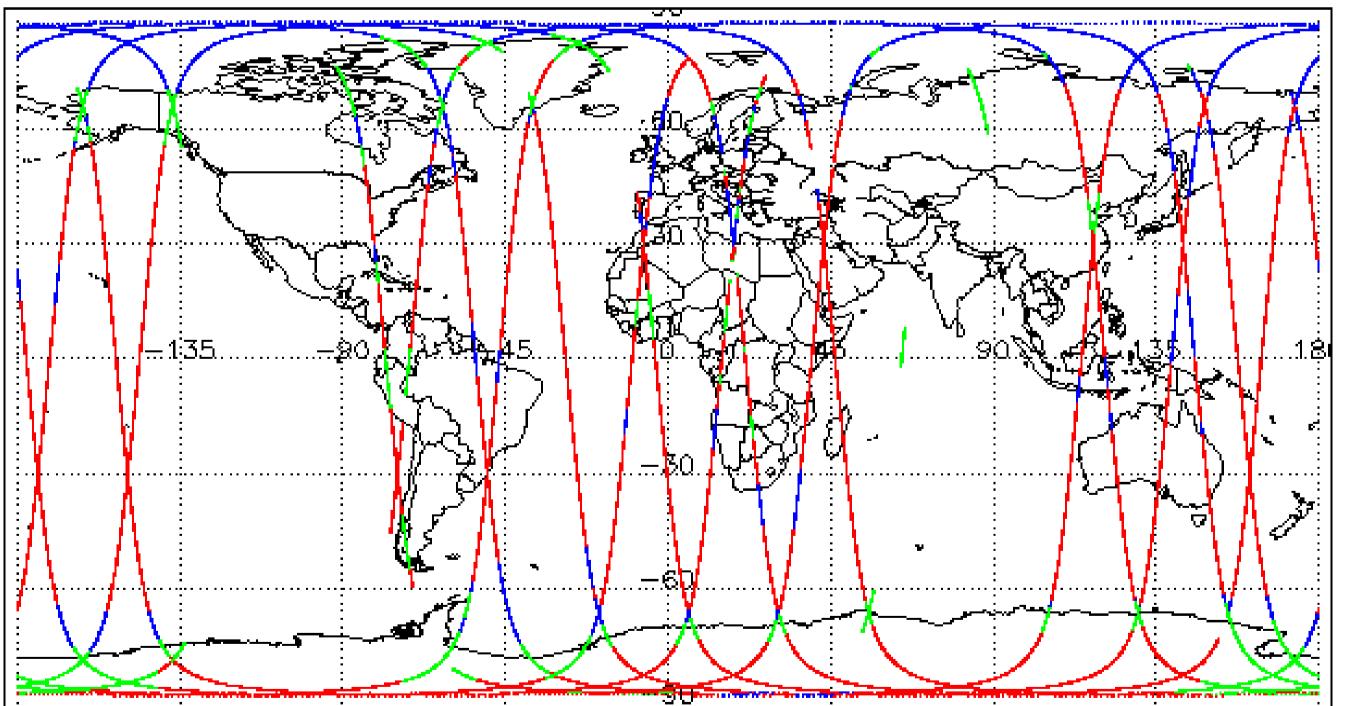
Mission /	Instrument News
-----------	-----------------

17-Apr-2023 None
18-Apr-2023 Roll campaign involving two periods of unavailability, 03:00 – 06:30 and 15:45 – 18:50
19-Apr-2023 Nothing planned

# 2. Global Coverage











# 3. Instrument Configuration

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

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

# 4. NOP Level 1B Data Quality Check

## 4.1 L1B Product Format Check

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

Number of products with errors:

0

## **4.2 L1B Product Header Analysis**

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

> L1B Processing Quality HR: The I1b_proc_flag_hr flag is currently set all I	L1B NOPR and NOPN products because the I1	1b_processing_quality_hr field is not correct	ily configured in the OSAR and
OSARIn chains. A modification is required in the next release.			

Number of products with errors:

0

0

0

## 4.3 L1B Auxilary Data File Usage Check

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

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

Number of products with errors:

## 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:

### **4.5 L1B Measurement Confidence Data Check**

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

> Attitude Correction Missing: This flag is currently set in error for NOPR products due to a configuration issue. The attitude correction is not actually missing, This is being investigated and will be updated in the next SW update.

Number of products with errors:

1

Product	Test Failed	Description
CS_OFFL_SIR_NOPM1B_20230418T141942_20230418T143004_C001	Power scaling error	There is an error in the scaling of the L1B waveform for one or more records

### 4.6 L1B Waveform Group Data Check

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

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

#### Number of products with errors:

12

Product	Test Failed	Description
CS_OFFL_SIR_NOPM1B_20230418T020030_20230418T020232_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPM1B_20230418T020432_20230418T021354_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20230418T005151_20230418T005312_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20230418T023106_20230418T023211_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20230418T104131_20230418T104410_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20230418T122209_20230418T122313_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20230418T135708_20230418T135805_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20230418T150323_20230418T150707_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20230418T185210_20230418T185611_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20230418T231035_20230418T231548_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPR1B_20230418T071926_20230418T072107_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPR1B_20230418T190439_20230418T190650_C001	Loss of Echo	The tracking echo is missing for one or more records
5. N	OP Level 2 Data Qu	ality Check
5. No. 5.1 L2 Product Format Check Each product, retrieved and unpacked from the science server, is checked to		
5.1 L2 Product Format Check		
<b>5.1 L2 Product Format Check</b> Each product, retrieved and unpacked from the science server, is checked to		
5.1 L2 Product Format Check         Each product, retrieved and unpacked from the science server, is checked to         Number of products with errors:       0         5.2 L2 Product Header Analysis	ensure it consists of both an XML	header file (.HDR) and a NetCDF product file (.nc).
<b>5.1 L2 Product Format Check</b> Each product, retrieved and unpacked from the science server, is checked to         Number of products with errors:       0	ensure it consists of both an XML	header file (.HDR) and a NetCDF product file (.nc).

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

## **5.4 L2 Auxiliary Correction Error Check**

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

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

> ECMWF Meteo Corrections: Currently the following corrections are not computed over CONTINENTAL ICE: Dry Tropospheric Corection, Wet Tropospheric Correction, Inverse Barometric Correction and the U-Wind and V-Wind components of the ECMWF model wind vector. This is a known anomaly (CRYO-COP-3) and will be resolved in a future IPF update.

> Mean Sea Surface: The error value is currently set for products over land and sea ice, but this is to be expected.

> Mean Dynamic Topography: The error value is currently set for products over land and sea ice, but this is to be expected.

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

Number of products with errors:

Product		Description
		Topography (solution 1) and the tidal corrections for one or more records
CS_OFFL_SIR_NOPN_2_20230418T000105_20230418T000731_C001		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20230418T005151_20230418T005312_C001	Topography (1), Total Geocentric Ocean	There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_NOPN_2_20230418T005552_20230418T005708_C001	IMean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20230418T013431_20230418T013810_C001		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20230418T023106_20230418T023211_C001		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20230418T063512_20230418T063708_C001		Topography (solution 1) and the tidal corrections for one or more records
CS_OFFL_SIR_NOPN_2_20230418T081254_20230418T081617_C001		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20230418T082142_20230418T082300_C001		There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20230418T091139_20230418T091513_C001		There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20230418T095155_20230418T095515_C001		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20230418T100034_20230418T100158_C001		There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_202304181104131_202304181104410_C001	Topography (1), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period	There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 2: FES) and the Non-Equilibrium Long Period Ocean Tide for one or more records
CS_OFFL_SIR_NOPN_2_20230418T113914_20230418T114041_C001		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20230418T121802_20230418T121906_C001	IMean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20230418T122209_20230418T122313_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20230418T130728_20230418T130905_C001		There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20230418T131631_20230418T131833_C001		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20230418T140012_20230418T140220_C001		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20230418T140220_20230418T140228_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
US OFFE SIR NOPN 2 202304181145512 202304181145604 COUT		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_202304181150323_202304181150707_C001	Geocentric Ocean Tide (GOT), Total	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
		There is an error with the MSS height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_NOPN_2_20230418T194523_20230418T194648_C001		There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20230418T203341_20230418T203542_C001	INIGAN DVNAMIC LODODRADNV (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20230418T212454_20230418T212620_C001	IMean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
US OFFE SIR NOPN / 202304181213133 202304181213434 COUT		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20230418T230501_20230418T230805_C001		There is an error with the Mean Dynamic Topography height for one or more records
US OFFE SIR NOPN 7 707304181731035 207304181731548 COUT		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records

CS_OFFL_SIR_NOPR_2_20230418T004431_20230418T004959_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPR_2_20230418T004959_20230418T005151_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPR_2_20230418T013320_20230418T013431_C001	Mean Sea Surface (1)	There is an error with the MSS height (solution 1) for one or more records
CS_OFFL_SIR_NOPR_2_20230418T022421_20230418T022615_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPR_2_20230418T022634_20230418T022829_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPR_2_20230418T022829_20230418T023105_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPR_2_20230418T071333_20230418T071404_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPR_2_20230418T071926_20230418T072107_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPR_2_20230418T072232_20230418T073242_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPR_2_20230418T090324_20230418T091139_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPR_2_20230418T104411_20230418T105127_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPR_2_20230418T122313_20230418T123031_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPR_2_20230418T140228_20230418T140913_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPR_2_20230418T185623_20230418T190404_C001	Mean Sea Surface (1), Mean Dynamic Topography (1)	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPR_2_20230418T222616_20230418T223320_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records

## **5.5 L2 Measurement Confidence Data Check**

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

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_NOPM_2_20230418T141942_20230418T143004_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records

## 5.6 L2 Measurement Quality Flag Check

### L2 Quality Flags (20 Hz)

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

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

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

> OCOG Altimeter Range and Backscatter Quality Flags: These flags are currently set for some records over continental ice.

Number of products with errors:

74

Product	Test Failed	Description
CS OFFE SIR NOPM 2 202304171235913 202304181000105 C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T000809_20230418T001958_C001	<b>C</b>	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records

CS_OFFL_SIR_NOPM_2_20230418T002035_20230418T002310_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T002340_20230418T002526_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T003007_20230418T003846_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T005742_20230418T011416_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T011624_20230418T013055_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records

CS_OFFL_SIR_NOPM_2_20230418T014109_20230418T014520_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T014706_20230418T015932_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T024123_20230418T025325_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T025842_20230418T030630_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T063708_20230418T064310_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T064440_20230418T071302_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T072107_20230418T072232_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T073615_20230418T081004_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T081617_20230418T082142_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T082321_20230418T082934_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T083224_20230418T083554_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T085958_20230418T090324_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T091541_20230418T092421_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T092706_20230418T093445_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T093447_20230418T094929_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T095515_20230418T095622_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T095626_20230418T100034_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T100235_20230418T102209_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T102535_20230418T103009_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T103113_20230418T103244_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T105410_20230418T112741_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records

CS_OFFL_SIR_NOPM_2_20230418T113032_20230418T113520_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T113540_20230418T113914_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T114240_20230418T114335_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T114621_20230418T121744_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T123749_20230418T124501_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records

CS_OFFL_SIR_NOPM_2_20230418T124943_20230418T125028_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T125046_20230418T130717_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T130905_20230418T131420_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T132427_20230418T133759_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T134147_20230418T135224_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T141942_20230418T143004_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T143143_20230418T144612_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T144831_20230418T145332_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T145339_20230418T145350_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T145356_20230418T145406_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T150205_20230418T150322_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T150708_20230418T151457_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T151904_20230418T152352_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T152636_20230418T153223_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T191615_20230418T192240_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T192245_20230418T193434_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T193838_20230418T194501_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T194648_20230418T195442_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T195758_20230418T203155_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T205111_20230418T205327_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T211207_20230418T212416_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records

CS_OFFL_SIR_NOPM_2_20230418T212620_20230418T213132_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T213732_20230418T215945_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T220230_20230418T221159_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T222325_20230418T222616_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T223320_20230418T223506_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records

CS_OFFL_SIR_NOPM_2_20230418T224231_20230418T224840_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T225016_20230418T230250_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230418T231730_20230418T234944_C001	<b>3</b>	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPN_2_20230418T023258_20230418T023351_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPN_2_20230418T040002_20230418T040434_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPN_2_20230418T095155_20230418T095515_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPN_2_20230418T100034_20230418T100158_C001	<b>C</b>	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPN_2_20230418T180402_20230418T180654_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPN_2_20230418T210200_20230418T210344_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T103009_20230418T103112_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T121744_20230418T121802_C001		The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T135402_20230418T135707_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T204729_20230418T204802_C001	<b>3</b> · · · · ·	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T212417_20230418T212454_C001	<b>U</b>	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T221409_20230418T221433_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records

## L2 Quality Flags (20 Hz PLRM)

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

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

> OCOG Altimeter Range and Backscatter PLRM Quality Flags: These flags are currently set for occasional records over continental ice.

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_NOPN_2_20230418T005151_20230418T005312_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPN_2_20230418T021354_20230418T021548_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPN_2_20230418T023106_20230418T023211_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPN_2_20230418T023538_20230418T023719_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPN_2_20230418T025325_20230418T025639_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPN_2_20230418T040002_20230418T040434_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPN_2_20230418T063512_20230418T063708_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPN_2_20230418T064310_20230418T064440_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records

Columb S House - Alex enclose - Columb House Status         Status - Status - Columb House Status         Proceeding           Columb S House - Alex enclose - Columb House - Status - Title         Columb - Columb House - Status - Title         Title - Columb House - Status - Title           Columb S House - Alex enclose - Columb House - Status - Title         Columb House - Status - Title - Status - Title         Title - Columb House - Status - Title           Columb S House - Alex enclose - Columb House - Status - Title         Columb House - Status - Title - Status			
C2 00-101 0010 / 2000 balance rights     COOR balance rights     Improvement       C2 00-11 0010 / 2000 balance rights     COOR balance rights     COOR balance rights       C2 00-11 0010 / 2000 balance rights     COOR balance rights     COOR balance rights       C2 00-11 0010 / 2000 balance rights     COOR balance rights     COOR balance rights       C2 00-11 0010 / 2000 balance rights     COOR balance rights     The COOR balance rights       C2 00-11 0010 / 2000 balance rights     COOR balance rights     The COOR balance rights       C2 00-11 0010 / 2000 balance rights     COOR balance rights     The COOR balance rights       C2 00-11 0010 / 2000 balance rights     COOR balance rights     The COOR balance rights       C2 00-11 0010 / 2000 balance rights     The COOR balance rights     The COOR balance rights       C2 00-11 0010 / 2000 right     COOR balance rights     The COOR balance rights     The COOR balance rights       C2 00-11 0010 / 2000 right     COOR balance rights     The COOR balance rights     The COOR balance rights       C2 00-11 0010 / 2000 right     COOR balance rights     The COOR balance rights     The COOR balance rights       C2 00-11 0010 / 2000 rights     COOR balance rights     The COOR balance rights     The COOR balance rights       C2 00-11 0010 / 2000 rights     COOR balance rights     The COOR balance rights     The COOR balance rights       C2 00-11 0010 / 2000 rights <td>CS_OFFL_SIR_NOPN_2_20230418T073242_20230418T073615_C001</td> <td></td> <td>The OCOG Range and Backscatter Quality Flags have been set for one or more records</td>	CS_OFFL_SIR_NOPN_2_20230418T073242_20230418T073615_C001		The OCOG Range and Backscatter Quality Flags have been set for one or more records
Color Statistication Constraintication Color         CODE declarater Guide         Instrume restation           DB, GHL, SH, NOPL & SOBRETTIND, SOBRETTIND, CODE (Statistication), Code Statistication), Code Statistication, Code Statisting Statisting Statistication, Code Statistication, Code Statisti	CS_OFFL_SIR_NOPN_2_20230418T082142_20230418T082300_C001	•	The OCOG Range and Backscatter Quality Flags have been set for one or more records
<ul> <li>Color, S. M. Color, A. Martin, M. 2020 (2019) 4220 (2</li></ul>	CS_OFFL_SIR_NOPN_2_20230418T085908_20230418T085958_C001	<b>C I</b>	The OCOG Range and Backscatter Quality Flags have been set for one or more records
Contruling Normal 2, 2020-11110-101, 2020-11111-1110, 2020-11111-1110, 2020-11111-1110, 2020-11111-1110, 2020-1200-1111-1110, 2020-1200-1111, 2020-1200-1200, 2020-11110, 2020-1200-1200, 2020-11110, 2020-1200-1200, 20200, 2020-1200, 2020-1200, 2020-1200, 2020-1200, 2020-1200, 2020-120	CS_OFFL_SIR_NOPN_2_20230418T091139_20230418T091513_C001	<b>c</b> .	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS, DFL, SR, VDPL 2. 2020-11671 S1551, 2020-11671 S1553, 2020-11         DCCO Basketer Guin         more evolub           CS, DFL, SR, VDPL 2. 2020-11671 S1551, 2020-11671 S1553, 2020-11         DCCO Basketer Guin         The Occor Area of Status and Calify FLSP, OCCO           CS, DFL, SR, VDPL 2. 2020-11671 S1551, 2020-11         DCCO Basketer Guin         The OCCO, Area and You and Decketer Calify FLSP, OCCO           CS, DFL, SR, VDPL 2. 2020-11671 15561, 2020-11671 S1553, 2020-11         DCCO Basketer Guin         The OCCO, Area and You and Decketer Calify FLSP, OCCO           CS, DFL, SR, VDPL 2. 2020-11671 15561, 2020-11671 S1561, 2020-1171 S1561, 2020-1171 S1561, 2020-1171 S1561, 2020-11671 S1561, 2020-1171 S1561, 2020-11671 S1561, 2020-1171 S1561, 2020-	CS_OFFL_SIR_NOPN_2_20230418T104131_20230418T104410_C001	and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CB_OFT_SR_NON_22020+16T19161_0220+16T19162_020     Mid Bakketan Guide PDU* OCC     The descent and the back state Call and the back state c	CS_OFFL_SIR_NOPN_2_20230418T121802_20230418T121906_C001	<b>c</b>	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CSD-TL_SRUNDPL2_20200119114012_202001         CODG Sustanter Dualy         Into react dis           CS_DPRL_SRUNDPL2_20200119114612_202001         CODG Sustanter Dualy         Into OCDG Arrest Progs_SSR SVM and Backstotter Qualy Flags have been as for one one server and the CODG Arrest Progs_SSR SVM and Backstotter Qualy Flags have been as for one one server and the CODG Arrest Progs_SSR SVM and Backstotter Qualy Flags have been as for one one server and the CODG Arrest Progs_SSR SVM and Backstotter Qualy Flags have been as for one one server.           CS_OFE_SR_NDPL2_20200111145002_20200111116000_20011         CODG Arrester Renge Qualy PL8M, the CODG Arrester Renge SSR SVM and Backstotter Qualy Flags have been as for one one server.           CS_OFE_SR_NDPL2_20200111116000_20012_20200111116000_20011         CODG Arrester Renge Qualy PL8M, the CODG Arrester Renge SSR SVM and Backstotter Qualy Flags have been as for one one server.           CS_OFE_SR_NDPL2_20200111116000_20011         CODG Arrester Renge Qualy PL8M, the CODG Arrester Renge Qualy P	CS_OFFL_SIR_NOPN_2_20230418T131631_20230418T131833_C001	and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality	and the OCOG Altimeter Range and Backscatter Quality Flags have been
Dot Unit, Site NOPM 2: Additional 101009 200000 (191002 C001)         DOOG Biodisout Colling         more means/s           CS, DER, SIR NOPN 2: Additional 101009 200000 (191002)         DOOG Biodisout Colling         The Code Allineer Range, SIN, SOP           CS, DER, SIR NOPN 2: Additional 1010000 (19100000)         DOOG Biodisout Colling         The Code Allineer Range, SIN, SOP           CS, DER, SIR NOPN 2: Additional 1010000 (19100000)         DOOG Biodisout Colling         The COde Range and Biodisout Colling (1910)           CS, DER, SIR NOPN 2: Additional 1010000 (19100000)         DOOG Biodisout Colling (1910)         The COde Range and Biodisout Colling (1910)           CS, DER, SIR NOPN 2: Additional 101000 (19100000)         DOOG Allineer Range Colling (1910)         The COde Range and Biodisout Colling (1910)           CS, DER, SIR NOPN 2: Additional 101000 (20000 (19100000)         DOOG Allineer Range Colling (1910)         The COde Range and Biodisout Colling (1910)           CS, DER, SIR NOPN 2: Additional 10000 (19100000)         DOOG Allineer Range Colling (1910)         The COde Range and Biodisout Colling (1910)           CS, DER, SIR NOPN 2: Additional 10000 (19100000)         DOOG Allineer Range Colling (1910)         The COde Range and Biodisout Colling (1910)           CS, DER, SIR NOPN 2: Additional 10000 (19100000)         DOOG Allineer Range Colling (1910)         The COde Range and Biodisout Colling (1910)           CS, DER, SIR NOPN 2: Additional 10000 (19100000)         DOOG Allineer Range Colling (1910)	CS_OFFL_SIR_NOPN_2_20230418T140012_20230418T140220_C001	<b>c</b> .	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OPFL_SIR_NOPK_2_20220418114512_20220418114512         und Runkscater Quality FIRM_COOL         The Machine Character Barge Scalar Quality FIRM_COOL           CS_OFFL_SIR_NOPK_2_20220418114512_2022020418114512         COOS Alterest Range Quality FIRM_COOL         The COOS Range and Backscater Quality FIRM_COOL           CS_OFFL_SIR_NOPK_2_20220418114512         COOS Alterest Range Quality FIRM_COOL         The COOS Range and Backscater Quality FIRM_COOL           CS_OFFL_SIR_NOPK_2_20220418114512         COOS Alterest Range Quality FIRM_COOL         The COOS Range and Backscater Quality FIRM_COOL           CS_OFFL_SIR_NOPK_2_20220418114520         COOS Alterest Range Quality FIRM_COOL         The COOS Range and Backscater Quality FIRM_COOL           CS_OFFL_SIR_NOPK_2_20220418114520         COOS Alterest Range Quality FIRM_COOL         The COOS Range and Backscater Quality FIRM_COOL           CS_OFFL_SIR_NOPK_2_20220418114520         COOS Alterest Range Quality FIRM_COOL         The COOS Range and Backscater Quality FIRM_COOL           CS_OFFL_SIR_NOPK_2_202204181162042         COOS Alterest Range Quality FIRM_COOL         The COOS Range and Backscater Quality FIRM_COOL           CS_OFFL_SIR_NOPK_2_202204181162042         COOID Alterest Range Quality FIRM_COOL         The COOS Range and Backscater Quality FIRM_COOL           CS_OFFL_SIR_NOPK_2_2022041811204620         COOS Alterest Range Quality FIRM_COOL         The COOS Range and Backscater Quality FIRM_COOL           CS_OFFL_SIR_NOPK_2_2022041817204620         COOS Alterest Range Quality FIRM_	CS_OFFL_SIR_NOPN_2_20230418T141659_20230418T141942_C001	<b>c i</b>	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPH_2_20220181161637_202304181161637_202304181161904_C001 CGS_OFFL_SIR_NOPH_2_202204181161637_202304181161004_01 CGS_OFFL_SIR_NOPH_2_202204181164037_202304181168054_C001 CGS_OFFL_SIR_NOPH_2_202204181164037_202304181168054_C001 CGS_OFFL_SIR_NOPH_2_202204181169042_202304181168054_C001 CGS_OFFL_SIR_NOPH_2_202204181169042_202304181168054_C001 CGS_OFFL_SIR_NOPH_2_202204181169042_202304181168054_C001 CGS_OFFL_SIR_NOPH_2_202204181169042_202304181168054_C001 CGS_OFFL_SIR_NOPH_2_202204181169042_202304181168054_C001 CGS_OFFL_SIR_NOPH_2_202304181169042_202304181168054_C001 CGS_OFFL_SIR_NOPH_2_202304181169042_202304181168054_C001 CGS_OFFL_SIR_NOPH_2_202304181169042_202304181168054_C001 CGS_OFFL_SIR_NOPH_2_202304181169042_202304181168054_C001 CGS_OFFL_SIR_NOPH_2_2023041811690407_C001 CGS_OFFL_SIR_NOPH_2_2023041811690407_C001 CGS_OFFL_SIR_NOPH_2_2023041811690407_C001 CGS_OFFL_SIR_NOPH_2_2023041811690407_C001 CGS_OFFL_SIR_NOPH_2_2023041811224804_202304181124820_0001 CGS_OFFL_SIR_NOPH_2_20230418112484_202304181124820_0001 CGS_OFFL_SIR_NOPH_2_20230418112484_20230418112484_0000 Antimeter Range SINA_SVH and Backscatter Quality FIRM_Antimeter Range SINA_SVH and Backscatter Quality FIRM_Antimeter Range SINA_SVH and Backscatter Quality FIRM_ANTIME Range Backscatter Quality FIRM_ANTIME Range Backscatter Qu	CS_OFFL_SIR_NOPN_2_20230418T145512_20230418T145604_C001	and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_NOPN_2_202304181101462_00394181101402_000         OCCOG Backsteller Quality         Innore mode           CS_OFFL_SIR_NOPN_2_202304181180402_202304181180642_0001         OCCOG Backsteller Quality         The OCCOG Range and Backsteller Quality Flags have been set for one of more mode           CS_OFFL_SIR_NOPN_2_202304181180402_202304181180642_0001         OCCOG Aktmeter Range Quality         FLM         The OCCOG Range and Backsteller Quality Flags have been set for one of OCCOG Aktmeter Range Quality           CS_OFFL_SIR_NOPN_2_202304181195442_202304181195554_0001         OCCOG Aktmeter Range Quality         FLM         The OCCOG Range and Backsteller Quality Flags have been set for one of more records           CS_OFFL_SIR_NOPN_2_202304181195442_202304181195554_0001         OCCOG Aktmeter Range Quality FLRM, The OCCOG Range and Backsteller Quality Flags have been set for one of more records           CS_OFFL_SIR_NOPN_2_202304181204502_202304181204502_0001         OCCOG Aktmeter Range Quality FLRM, The OCCOG Range and Backsteller Quality Flags have been set for one of more records           CS_OFFL_SIR_NOPN_2_202304181204502_002304187204502_0001         OCCOG Aktmeter Range Quality FLRM, The OCCOG Range and Backsteller Quality Flags have been set for one of more records           CS_OFFL_SIR_NOPN_2_202304187204501_202304187204502_0001         OCCOG Aktmeter Range Quality FLRM, The OCCOG Range and Backsteller Quality Flags have been set for one of more records           CS_OFFL_SIR_NOPN_2_202304187204501_202304187204502_0001         OCCOG Aktmeter Range Quality FLRM, The OCCOG Range and Backsteller Quality Flags have been set for one of m	CS_OFFL_SIR_NOPN_2_20230418T150323_20230418T150707_C001		The OCOG Range and Backscatter Quality Flags have been set for one or more records
OCOG Backscatter Quality     more reads     more reads     more reads     more reads     Cs_OFFL_SIR_NOPN_2_20230418T185210_00230418T18554_C001     OCOG Atimeter Range Quality PLRM,     CCOG Alimeter Range Quality PLRM,     CCOG Range and Backscatter Quality Flags have been set for one or     more reacrds     CCOG Alimeter Range Quality PLRM,     CCOG Range and Backscatter Quality Flags have been set for one or     more reacrds     CCCOG Range and Backscatter Quality Flags have been set for one or     CCOG Range and Backscatter Quality Flags have been set for one or     more reacrds     CCCOG Range and Backscatter Quality Flags have been set for one or     CCOG Range and Backscatter Quality Flags have been set for one or     CCOG Range and Backscatter Quality Flags have been set for one or     more reacrds     CCCOG Range and Backscatter Quality Flags have been set for one or     CCOG Range and Backscatter Quality Flags have been set for one or     CCOG Range and Backscatter Quality Flags have been set for one or     more reacrds     CCCOG Range and Backscatter Quality Flags have been set for one or     more reacrds     CCCOG Range and Backscatter Quality Flags have been set for one or     more reacrds     CCCOG Range and Backscatter Quality Flags have been set for one or     more reacrds     CCCOG Range and Backscatter Quality Flags have been set for one or     more reacr	CS_OFFL_SIR_NOPN_2_20230418T151457_20230418T151904_C001	<b>c</b>	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPN_2_20230418T195042_20230418T195554_C001         OCOG Backscatter Quality         more records           CS_OFFL_SIR_NOPN_2_20230418T195042_20230418T195554_C001         OCOG Alimeter Range Quality PLRM, OCOG Backscatter Quality PLRM, COGG Alimeter Range, SSHA, SWH and Backscatter Quality PLRM, COGG Alimeter Range, SSHA, SWH and Backscatter Quality PLRM, COG Alimeter Range and Backscatter Quality P	CS_OFFL_SIR_NOPN_2_20230418T180402_20230418T180654_C001	<b>c i</b>	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPN_2_202304181130442_202304181130544_2001         OCCG Backscatter Quality         more records           CS_OFFL_SIR_NOPN_2_202304181204618_202304187204637_C001         OCCG Attimeter Range Quality PLRM, OCCG Backscatter Quality         The OCCG Range and Backscatter Quality Flags have been set for one on more records           CS_OFFL_SIR_NOPN_2_202304187204602_202304187204626_C001         OCCG Attimeter Range Quality PLRM, OCCG Backscatter Quality         The OCCG Range and Backscatter Quality Flags have been set for one on more records           CS_OFFL_SIR_NOPN_2_202304187212620_C001         OCCG Attimeter Range Quality PLRM, OCCG Backscatter Quality         The OCCG Range and Backscatter Quality Flags have been set for one on more records           CS_OFFL_SIR_NOPN_2_202304187212620_C001         OCCG Attimeter Range Quality PLRM, OCCG Backscatter Quality         The OCCG Range and Backscatter Quality Flags have been set for one on more records           CS_OFFL_SIR_NOPN_2_202304187230501_202304187230805_C001         OCCGA Attimeter Range_SSHA, SWH PLRM         The OCCGA Attimeter Range and Backscatter Quality Flags have been set for one or more records           CS_OFFL_SIR_NOPR_2_202304187000732_202304187000732_202304187000809_C001         OCCGA Attimeter Range_SSHA, SWH PLRM         The Ocean Attimeter Range_SSHA, SWH and the OCCGA Attimeter Range and Backscatter Quality Flags have been set for one or more records           CS_OFFL_SIR_NOPR_2_202304187003732_202304187004104_C001         OCCGA Attimeter Range_SSHA, SWH PLRM         The Ocean Attimeter Range, SSHA, SWH and the OCCGA Attimater Range and Backscatter Quality Flags are the OCCGA Attimet	CS_OFFL_SIR_NOPN_2_20230418T185210_20230418T185611_C001	<b>c</b> .	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPN_2_202304181204802_202304181204826_C001       OCOG Backscatter Quality       more records         CS_OFFL_SIR_NOPN_2_202304187204802_202304187204826_C001       OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality       The OCOG Range and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_NOPN_2_202304187212454_202304187212620_C001       OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality       The OCOG Range and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_NOPN_2_202304187224054_202304187224231_C001       OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality       The OCOG Range and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_NOPN_2_202304187230501_202304187230501_202304187230805_C001       Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Plags have been set for one or more records       The OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_NOPR_2_202304187000732_202304187000809_C001       Altimeter Range, SSHA, SWH and Backscatter Quality Plags have been at threner Range and Backscatter Quality Flags have been set for one or more records       The OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_NOPR_2_202304187004104_C001       Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been at threner Range and Backscatter Quality Flags have been set for one or more records       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have	CS_OFFL_SIR_NOPN_2_20230418T195442_20230418T195554_C001		The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPN_2_20230418120454_202304181212620_C001       OCOG Backscatter Quality       more records         CS_OFFL_SIR_NOPN_2_202304181212464_202304181212620_C001       OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality       The OCOG Range and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_NOPN_2_202304181224054_202304181224231_C001       OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality       The OCOG Range and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_NOPN_2_202304181230501_202304181230805_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_NOPR_2_202304181000732_202304181000809_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_NOPR_2_202304181003912_202304181004104_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flags have been after one or more records         CS_OFFL_SIR_NOPR_2_202304181004431_202304181004559_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flags have been after one or more records         CS_OFFL_SIR_NOPR_2_202304181005708_202304181005742_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flags have been after one or more records	CS_OFFL_SIR_NOPN_2_20230418T204618_20230418T204657_C001		The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPN_2_202304181212494_20230418121260_C001       OCOG Backscatter Quality       Inore records         CS_OFFL_SIR_NOPN_2_202304181224054_202304181224231_C001       OCOG Backscatter Quality       PLRM.         CS_OFFL_SIR_NOPN_2_202304181224054_202304181224231_C001       OCOG Backscatter Quality       PLRM.         CS_OFFL_SIR_NOPN_2_202304181230501_202304181230805_C001       Cean Altimeter Range, SSHA, SWH and Backscatter Quality       The OCOG Altimeter Range and Backscatter Quality       Flags and Backscatter Quality         CS_OFFL_SIR_NOPN_2_202304181000732_202304181000809_C001       Cean Altimeter Range, SSHA, SWH and Backscatter Quality       The OCean Altimeter Range, SSHA, SWH and Backscatter Quality       The OCean Altimeter Range, SSHA, SWH and Backscatter Quality       The OCean Altimeter Range, SSHA, SWH and Backscatter Quality       The OCean Altimeter Range, SSHA, SWH and Backscatter Quality       The OCean Altimeter Range, SSHA, SWH and Backscatter Quality       The OCean Altimeter Range and Backscatter Qualit	CS_OFFL_SIR_NOPN_2_20230418T204802_20230418T204926_C001	•	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPN_2_202304181224034_202304181224231_C001       OCOG Backscatter Quality       more records         CS_OFFL_SIR_NOPN_2_202304181230501_202304181230805_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_NOPR_2_20230418T000732_20230418T000809_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_NOPR_2_20230418T000732_20230418T000809_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_NOPR_2_20230418T003912_20230418T004104_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_NOPR_2_20230418T004431_20230418T004959_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_NOPR_2_20230418T004431_20230418T004959_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_NOPR_2_20230418T005708_20230418T005742_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_NOPR_2_20230418T005708_20230418T005742_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_NOPR_2_20230418T005708_20230418T0	CS_OFFL_SIR_NOPN_2_20230418T212454_20230418T212620_C001	•	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPN_2_20230418T230501_20230418T230805_C001       and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM, OCOG PLRM       The Ocean Altimeter Range, and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_NOPR_2_20230418T000732_20230418T000809_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flags and the OCOG Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range, ASHA, SWH and Backscatter Quality PLRM, OCOG Altimeter	CS_OFFL_SIR_NOPN_2_20230418T224054_20230418T224231_C001	<b>c i</b>	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T000732_20230418T000809_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or more records	CS_OFFL_SIR_NOPN_2_20230418T230501_20230418T230805_C001	and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_NOPR_2_20230418T003912_20230418T004104_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_NOPR_2_20230418T004431_20230418T004959_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_NOPR_2_20230418T005708_20230418T005742_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_NOPR_2_20230418T0015708_20230418T005742_C001       OCOG Altimeter Range Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records	CS_OFFL_SIR_NOPR_2_20230418T000732_20230418T000809_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_NOPR_2_20230418T004431_20230418T004959_C001       and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_NOPR_2_20230418T005708_20230418T005742_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records         CS_OFFL_SIR_NOPR_2_20230418T011417_20230418T011624_C001       OCOG Altimeter Range Quality PLRM, OCOG Altimeter Range Quality PLRM,       The Ocean Altimeter Range and Backscatter Quality Flags have been set for one or more records	CS_OFFL_SIR_NOPR_2_20230418T003912_20230418T004104_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality	and the OCOG Altimeter Range and Backscatter Quality Flags have been
CS_OFFL_SIR_NOPR_2_20230418T011417_20230418T011624_C001 and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flags have been PLRM OCOG Altimeter Range Quality PLRM, The OCOG Range and Backscatter Quality Flags have been set for one or	CS_OFFL_SIR_NOPR_2_20230418T004431_20230418T004959_C001	and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality	and the OCOG Altimeter Range and Backscatter Quality Flags have been
	CS_OFFL_SIR_NOPR_2_20230418T005708_20230418T005742_C001	and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality	and the OCOG Altimeter Range and Backscatter Quality Flags have been
	CS_OFFL_SIR_NOPR_2_20230418T011417_20230418T011624_C001		The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T015932_20230418T020030_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality More records	CS_OFFL_SIR_NOPR_2_20230418T015932_20230418T020030_C001		The OCOG Range and Backscatter Quality Flags have been set for one or more records

CS_OFFL_SIR_NOPR_2_20230418T020337_20230418T020432_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T022421_20230418T022615_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T022634_20230418T022829_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T022829_20230418T023105_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T023719_20230418T023829_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T071926_20230418T072107_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T072232_20230418T073242_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T081004_20230418T081254_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T090324_20230418T091139_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T094929_20230418T095155_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T095622_20230418T095626_C001		The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T104411_20230418T105127_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T122313_20230418T123031_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T123253_20230418T123749_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T124502_20230418T124943_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T133800_20230418T134013_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T135402_20230418T135707_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T135805_20230418T140012_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T140228_20230418T140913_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T143004_20230418T143143_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T144613_20230418T144643_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records

CS_OFFL_SIR_NOPR_2_20230418T152515_20230418T152636_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T153346_20230418T153557_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T185623_20230418T190404_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T190440_20230418T190650_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T190655_20230418T190900_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records

CS_OFFL_SIR_NOPR_2_20230418T195555_20230418T195758_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T203250_20230418T203341_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T204729_20230418T204802_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T210923_20230418T211048_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T212417_20230418T212454_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T213435_20230418T213732_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T222616_20230418T223320_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPR_2_20230418T235119_20230418T235134_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records

### L2 Quality Flags (1 Hz & 1 Hz PLRM)

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

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

Number of products with errors:

153

## **5.7 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 falling at ocean/ land boundaries, but this is expected.

Number of products with errors: 49

### 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 NOPR and NOPN products over sea ice, but this is to be expected.

Number of products with errors:

115

## 7. NOP 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_NOPM1B	126	126	3	123	0
SIR_NOPR1B	101	101	0	101	0
SIR_NOPN1B	74	74	1	73	0
SIR_NOPM_2	126	126	76	50	0
SIR_NOPR_2	101	101	32	68	1
SIR_NOPN_2	74	74	23	51	0

## 7.1 QCC Errors

Number of QCC reports with errors:

4

#### Total number of occurrences of each error

Product Type	RLOBOPNCDF	RL	RLOBOPNCDF	RL	-	-	-	-	-	-	-
SIR_NOPR_2	1	1	1	1							

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

## 7.2 QCC Warnings

### Number of QCC reports with warnings



#### Total number of occurrences of each warning

Product Type	BCSHNCDF	IOHHMOOR	MVIOEPFDNCDF	MVIOEPNCDF	MVIONCDF	RBSZOPOEPFDNCDF	RBSZOPOEPFDPLRMNCD
SIR_NOPM1B	123	0	0	0	0	0	0
SIR_NOPM_2	0	0	37	36	1	36	0
SIR_NOPN1B	73	0	0	0	0	0	0
SIR_NOPN_2	0	0	7	28	5	19	24
SIR_NOPR1B	99	0	0	0	0	0	0
SIR_NOPR_2	0	1	24	30	0	22	17

Product Type	RBSZOPOEPNCDF	RLPTONCDF	RNELPOTONCDF	RPEPOPFDLRMNCDF	RPEPOPFDPLRMSARNCD	RPEPOPFDPLRMSINNCD	RPEPOPFDSARNCDF
SIR_NOPM1B	0	0	0	0	0	0	0
SIR_NOPM_2	27	0	0	36	0	0	0
SIR_NOPN1B	0	0	0	0	0	0	0
SIR_NOPN_2	13	3	1	0	0	21	0
SIR_NOPR1B	0	0	0	0	0	0	0
SIR_NOPR_2	7	9	4	0	34	0	48

Product Type	RPEPOPFDSINNCDF	RPEPOPLRMNCDF	RPEPOPSARNCDF	RPEPOPSINNCDF	RSSBCONCDF	RSSHAOFDNCDF	RSSHAOFDPLRMNCDF
SIR_NOPM1B	0	0	0	0	0	0	0
SIR_NOPM_2	0	25	0	0	3	23	0
SIR_NOPN1B	0	0	0	0	0	0	0
SIR_NOPN_2	28	0	0	25	7	38	43
SIR_NOPR1B	0	0	0	0	0	0	0
SIR_NOPR_2	0	0	34	0	2	48	23

Product Type	RSSHAONCDF	RSWHOEPFDNCDF	RSWHOEPFDPLRMNCDF	RSWHOEPNCDF	SPHRTASCNSNCDF	SPHRTASCNSNCDF	SOOHHIFHD
SIR_NOPM1B	0	0	0	0	0	1	0
SIR_NOPM_2	3	30	0	5	0	1	0
SIR_NOPN1B	0	0	0	0	0	0	0
SIR_NOPN_2	28	26	27	11	0	1	0
SIR_NOPR1B	0	0	0	0	0	0	0
SIR_NOPR_2	4	26	39	2	1	0	9

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
RLPTONCDF	RangeLongPeriodTideOceanNetCDF	The Long period tide height should be between -50mm and 50mm (or missing) for surface type = ocean - NetCDF
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

# 7.3 Missing QCC Reports

Number of products with missing QCC reports: