

# 1. Overview

Report Production:	14-Mar-2023	
Processor Used:	CryoSat Ocean Processor	
Data Used:	Near Real Time Ocean Products (NOP) L1B & L2 Science Data	

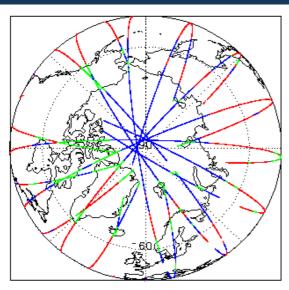
# We would love to hear from you!

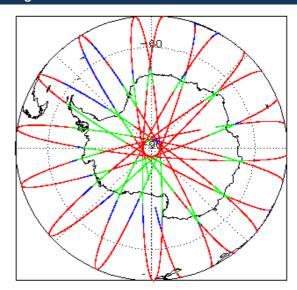
Please let us know your feedback about these daily quality reports: What do you like/ dislike? What quality information do you need? Send your feedback to cs2\_qc\_team@telespazio.com

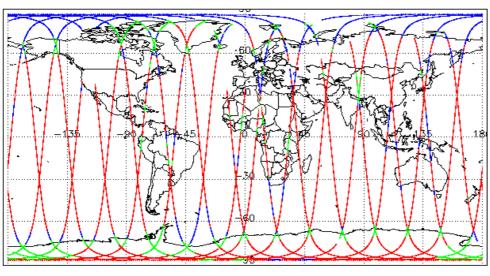
Check	L1 & L2
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	Nominal
Auxiliary Data File Usage Check	Nominal
Auxiliary Correction Error Check	See Section 5.4
Measurement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

M	Mission / Instrument News		
	12-Mar-2023	None	
	13-Mar-2023	None	
	14-Mar-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

#### 4.2 L1B Product Header Analysis

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

> L1B Processing Quality HR: The I1b\_proc\_flag\_hr flag is currently set all L1B NOPR and NOPN products because the I1b\_processing\_quality\_hr field is not correctly configured in the OSAR and OSARIn chains. A modification is required in the next release.

Number of products with errors:

#### 4.3 L1B Auxilary Data File Usage Check

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

> 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:

Ω

#### 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 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:

#### 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:

13

Product	Test Failed	Description
CS_OFFL_SIR_NOPM1B_20230313T045833_20230313T050059_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPM1B_20230313T130847_20230313T134135_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPM1B_20230313T150503_20230313T152053_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20230313T031140_20230313T031154_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20230313T062349_20230313T062837_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20230313T093735_20230313T093800_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20230313T120408_20230313T120820_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20230313T125143_20230313T125231_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20230313T161331_20230313T161543_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPR1B_20230313T075641_20230313T075834_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPR1B_20230313T092705_20230313T092856_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPR1B_20230313T110407_20230313T110718_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPR1B_20230313T142950_20230313T142953_C001	Loss of Echo	The tracking echo is missing for one or more records

### 5. NOP Level 2 Data Quality Check

# 5.1 L2 Product Format Check

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

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

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 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.

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- > 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	Test Failed	Description
CS_OFFL_SIR_NOPM_2_20230313T171318_20230313T174709_C001	liviean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records

CS_OFFL_SIR_NOPM_2_20230313T191836_20230313T192132_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or
		more records  There is an error with the Mean Dynamic Topography height for one or
CS_OFFL_SIR_NOPM_2_20230313T212611_20230313T212656_C001	Mean Dynamic Topography (1)	more records
CS_OFFL_SIR_NOPN_2_20230313T002917_20230313T003131_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_20230313T003520_20230313T003644_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_20230313T020958_20230313T021233_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_20230313T030505_20230313T030626_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_NOPN_2_20230313T034529_20230313T035119_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_20230313T043930_20230313T044032_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20230313T044435_20230313T044646_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_20230313T052725_20230313T052907_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20230313T053747_20230313T053951_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20230313T062349_20230313T062837_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_20230313T084635_20230313T085029_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 the tidal corrections for one or more records
CS_OFFL_SIR_NOPN_2_20230313T085622_20230313T085748_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20230313T102624_20230313T102937_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_20230313T103454_20230313T103605_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20230313T111055_20230313T111222_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_NOPN_2_20230313T120408_20230313T120820_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_20230313T121354_20230313T121519_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_20230313T135145_20230313T135329_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_20230313T143534_20230313T143628_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_20230313T152941_20230313T153158_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_20230313T160939_20230313T161237_C001	Total Geocentric Ocean Tide (GOT)	There is an error with the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_NOPN_2_20230313T161331_20230313T161544_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_NOPN_2_20230313T165955_20230313T170149_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20230313T170837_20230313T171317_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_NOPN_2_20230313T175014_20230313T175408_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_20230313T184004_20230313T184125_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_20230313T184957_20230313T185142_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_20230313T215904_20230313T220018_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20230313T220757_20230313T220913_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_20230313T233819_20230313T233941_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_20230313T234451_20230313T234800_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 the tidal corrections for one or more records
CS_OFFL_SIR_NOPR_2_20230313T045031_20230313T045125_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_NOPR_2_20230313T075852_20230313T080416_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_20230313T092705_20230313T092856_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_20230313T093801_20230313T094554_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_20230313T111625_20230313T112540_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_20230313T125731_20230313T130446_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_20230313T143629_20230313T144209_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_20230313T161544_20230313T162232_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_20230313T175408_20230313T175926_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_20230313T180000_20230313T180110_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_20230313T193224_20230313T194221_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_20230313T211003_20230313T211640_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_20230313T212657_20230313T212855_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:

0

## 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:

95

Product	Test Failed	Description
CS_OFFL_SIR_NOPM_2_20230313T000835_20230313T001321_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_20230313T001509_20230313T002819_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_20230313T004041_20230313T004720_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_20230313T004729_20230313T011336_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_20230313T011711_20230313T011726_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_20230313T011746_20230313T011846_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_20230313T013139_20230313T020258_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_20230313T021233_20230313T021426_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records

Ocean Altimeter Range and Backscatter Quality Flags have bee steed for one or more records  The Ocean Altimeter Range and Backscatter Quality Flags have bee steed for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have bee steed for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have bee steed for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have bee steed for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have bee steed for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have bee steed for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have bee steed for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have bee steed for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have bee steed for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have bee steed for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and Backscatter Quality Flags have bee steed for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have bee steed for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have bee steed for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have bee steed for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have bee steed for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have bee steed for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have bee steed for one or more records  The Ocean Altimeter Range and Backscatter Quality Flags have bee steed for one or more records  The Ocean Altimeter
and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags have bee and Backscatter Quality Flags have been so for one or more records  CS_OFFL_SIR_NOPM_2_20230313T03351_20230313T034528_C001  CS_OFFL_SIR_NOPM_2_20230313T035414_20230313T035836_C001  CS_OFFL_SIR_NOPM_2_20230313T035414_20230313T040725_C001  CS_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  CS_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  CS_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  CS_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  CS_OFFL_SIR_NOPM_2_20230313T040015_20230313T041518_C001  And Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags have been so for one or more records  COCOA Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been so for one or more records  CS_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  COCOA Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been so for one or more records  COCOA Altimeter Range and Backscatter Quality Flags have been so for one or more records  COCOA Altimeter Range and Backscatter Quality Flags have been so for one or mo
and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags have bee Set for one or more records  CS_OFFL_SIR_NOPM_2_20230313T031534_20230313T031748_C001  CS_OFFL_SIR_NOPM_2_20230313T031534_20230313T031748_C001  CS_OFFL_SIR_NOPM_2_20230313T031534_20230313T031731_C001  CS_OFFL_SIR_NOPM_2_20230313T031829_20230313T032731_C001  CS_OFFL_SIR_NOPM_2_20230313T031829_20230313T032731_C001  CS_OFFL_SIR_NOPM_2_20230313T033351_20230313T034528_C001  CS_OFFL_SIR_NOPM_2_20230313T033351_20230313T034528_C001  CS_OFFL_SIR_NOPM_2_20230313T035414_20230313T035836_C001  CS_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  CS_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  CS_OFFL_SIR_NOPM_2_20230313T040033_20230313T041518_C001  Altimeter Range and Backscatter Quality COCG Altimeter Range and Backscatter Quality Flags have been so for one or more records  CS_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  CCS_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  CCS_OFFL_SIR_NOPM_2_20230313T040033_20230313T041518_C001  CCS_OFFL_SIR_NOPM_2_20230313T040033_20230313T041518_C001  And the OCCG Altimeter Range and Backscatter Quality Flags have been so for one or more records  The Ocean Altimeter Range and Backscatter Quality Flags and the OCCG Altimeter Range and Backscatter Quality Flags have been so for one or more records  CCS_OFFL_SIR_NOPM_2_20230313T040015_20230313T041518_C001  CCS_OFFL_SIR_NOPM_2_20230313T040015_20230313T041518_C001  CCS_OFFL_SIR_NOPM_2_20230313T040015_20230313T041518_C001  CCS_OFFL_SIR_NOPM_2_20230313T040015_20230313T041518_C001  CCS_OFFL_SIR_NOPM_2_20230313T040015_20230313T041518_C001  CCS_OFFL_SIR_NOPM_2_20230313T040015_20230313T041518_C001  CCS_OFFL_SIR_NOPM_2_20230313T040
and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  CS_OFFL_SIR_NOPM_2_20230313T031534_20230313T032731_C001  CS_OFFL_SIR_NOPM_2_20230313T031829_20230313T032731_C001  CS_OFFL_SIR_NOPM_2_20230313T033351_20230313T034528_C001  CS_OFFL_SIR_NOPM_2_20230313T033351_20230313T034528_C001  CS_OFFL_SIR_NOPM_2_20230313T033351_20230313T034528_C001  CS_OFFL_SIR_NOPM_2_20230313T035414_20230313T035836_C001  CS_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  CS_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  CS_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  CS_OFFL_SIR_NOPM_2_20230313T040033_20230313T041518_C001  Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records  CS_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  CS_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  CS_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  CS_OFFL_SIR_NOPM_2_20230313T040033_20230313T040725_C001  CS_OFFL_SIR_NOPM_2_20230313T040033_20230313T040725_C001  CS_OFFL_SIR_NOPM_2_20230313T040033_20230313T040725_C001  CS_OFFL_SIR_NOPM_2_20230313T040033_20230313T040725_C001  CS_OFFL_SIR_NOPM_2_20230313T040035_20230313T040725_C001  CS_OFFL_SIR
and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  CS_OFFL_SIR_NOPM_2_20230313T033351_20230313T034528_C001  CS_OFFL_SIR_NOPM_2_20230313T033351_20230313T034528_C001  CS_OFFL_SIR_NOPM_2_20230313T035414_20230313T035836_C001  CS_OFFL_SIR_NOPM_2_20230313T035414_20230313T035836_C001  CS_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  CS_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  CS_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  CS_OFFL_SIR_NOPM_2_20230313T040033_20230313T041518_C001  Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records  The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  CS_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  The OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records  CS_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  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, SSHA, SWH and Backscatter Quality Flags have been set for one or more records  CS_OFFL_SIR_NOPM_2_20230313T040833_20230313T041518_C001  The OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records  CS_OFFL_SIR_NOPM_2_20230313T040833_20230313T041518_C001  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
CS_OFFL_SIR_NOPM_2_20230313T033351_20230313T034528_C001  and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  CS_OFFL_SIR_NOPM_2_20230313T035414_20230313T035836_C001  CS_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  CS_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  CS_OFFL_SIR_NOPM_2_20230313T040033_20230313T041518_C001  and Backscatter Quality, OCOG Backscatter Quality, OCOG Altimeter Range Quality, OCOG Backscatter Quality, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records  The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  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
Backscatter Quality  Cs_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  Cs_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  Cs_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  Cs_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  Cs_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  Cs_OFFL_SIR_NOPM_2_20230313T040015_20230313T041518_C001  Cs_OFFL_SIR_NOPM_2_20230313T040015_20230313T041518_C001  Cs_OFFL_SIR_NOPM_2_20230313T040015_20230313T041518_C001  Cs_OFFL_SIR_NOPM_2_20230313T040015_20230313T041518_C001  Cs_OFFL_SIR_NOPM_2_20230313T040015_20230313T041518_C001  Cs_OFFL_SIR_NOPM_2_20230313T040033_20230313T041518_C001  Cs_OFFL_SIR_NOPM_2_20230313T040033_20230313T041518_C001  Cs_OFFL_SIR_NOPM_2_20230313T040033_20230313T041518_C001  Cs_OFFL_SIR_NOPM_2_20230313T040033_20230313T041518_C001  Cs_OFFL_SIR_NOPM_2_20230313T040033_20230313T041518_C001  Cs_OFFL_SIR_NOPM_2_20230313T040033_20230313T041518_C001  Cs_OFFL_SIR_NOPM_2_20230313T040015_20230313T041518_C001  Cs_OFFL_SIR_NOPM_2_20230313T04
CS_OFFL_SIR_NOPM_2_20230313T040015_20230313T040725_C001  and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records  Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records  Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records  Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230313T040833_20230313T041518_C001 and Backscatter Quality, OCOG and the OCOG Altimeter Range and Backscatter Quality Flags have been
Cs_OFFL_SIR_NOPM_2_20230313T041658_20230313T043130_C001  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been left for one or more records  The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been left for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been also been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been altimeter Range and Backscatter Quality Flags have been deep to be for one or more records.
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been also been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter Range and Backscatter Quality Flags have been dependent on the OCOG Altimeter
CS_OFFL_SIR_NOPM_2_20230313T052907_20230313T053747_C001  OCOG Altimeter Range Quality, OCOG Backscatter Quality Flags have been soft for one or more records  The OCOG Altimeter Range and Backscatter Quality Flags have been soft for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been altimeter Range and Backscatter Quality Flags have been altimeter Ran
CS_OFFL_SIR_NOPM_2_20230313T061056_20230313T061321_C001  OCOG Altimeter Range Quality, OCOG Backscatter Quality Flags have been soft for one or more records  The OCOG Altimeter Range and Backscatter Quality Flags have been soft for one or more records
CS_OFFL_SIR_NOPM_2_20230313T064147_20230313T070606_C001  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230313T071112_20230313T071544_C001  OCOG Altimeter Range Quality, OCOG Backscatter Quality  The OCOG Altimeter Range and Backscatter Quality Flags have been so for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been altimeter Range and Backscatter Quality Flags have been altimeter Ran
CS_OFFL_SIR_NOPM_2_20230313T081659_20230313T084507_C001  Ocean Altimeter Range, SSHA, SWH 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_20230313T085030_20230313T085622_C001  OCOG Altimeter Range Quality, OCOG Backscatter Quality  The OCOG Altimeter Range and Backscatter Quality Flags have been so for one or more records
CS_OFFL_SIR_NOPM_2_20230313T085749_20230313T091703_C001  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPM_2_20230313T091705_20230313T092002_C001  OCOG Altimeter Range Quality, OCOG Backscatter Quality  The OCOG Altimeter Range and Backscatter Quality Flags have been so for one or more records
CS_OFFL_SIR_NOPM_2_20230313T092021_20230313T092304_C001  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20230313T092307_20230313T092510_C001  Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records

CS_OFFL_SIR_NOPM_2_20230313T093522_20230313T093620_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_20230313T094852_20230313T102406_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_20230313T102937_20230313T103454_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_20230313T103628_20230313T103935_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_20230313T104135_20230313T104352_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_20230313T111223_20230313T111500_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_20230313T112903_20230313T113739_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_20230313T114025_20230313T120324_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_20230313T120820_20230313T120939_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_20230313T120947_20230313T121354_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_20230313T121527_20230313T122900_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_20230313T123048_20230313T123638_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_20230313T123842_20230313T124322_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_20230313T130847_20230313T134135_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_20230313T134322_20230313T134839_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_20230313T135526_20230313T135637_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_20230313T135940_20230313T142949_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_20230313T143134_20230313T143533_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_20230313T145026_20230313T150258_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_20230313T150503_20230313T152053_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_20230313T152235_20230313T152737_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_20230313T152816_20230313T152940_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_20230313T153700_20230313T154717_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_20230313T155337_20230313T160451_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_20230313T164042_20230313T164324_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_20230313T164504_20230313T165947_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_20230313T170149_20230313T170649_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_20230313T171318_20230313T174709_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_20230313T181503_20230313T183925_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_20230313T184235_20230313T184607_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_20230313T184629_20230313T184956_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_20230313T185214_20230313T191827_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_20230313T191836_20230313T192132_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_20230313T195231_20230313T201847_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_20230313T202019_20230313T202522_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_20230313T202529_20230313T202856_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_20230313T203141_20230313T210635_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_20230313T212855_20230313T213348_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_20230313T215208_20230313T215839_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_20230313T220019_20230313T220555_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_20230313T221106_20230313T224509_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_20230313T225859_20230313T225957_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_20230313T231826_20230313T233809_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_20230313T233942_20230313T234451_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_20230313T235010_20230314T002458_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPN_2_20230313T021427_20230313T021719_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_20230313T135145_20230313T135329_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPN_2_20230313T155051_20230313T155113_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_20230313T175927_20230313T180000_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_NOPN_2_20230313T213913_20230313T214247_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_20230313T220555_20230313T220735_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_20230313T233819_20230313T233941_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_20230313T070606_20230313T070700_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_20230313T081539_20230313T081659_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_NOPR_2_20230313T094724_20230313T094726_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_20230313T130627_20230313T130847_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_NOPR_2_20230313T134852_20230313T134858_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_20230313T143629_20230313T144209_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_NOPR_2_20230313T144842_20230313T144846_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_20230313T160451_20230313T160647_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_20230313T163621_20230313T164041_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records

# L2 Quality Flags (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_20230313T002917_20230313T003131_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_20230313T012634_20230313T012655_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_20230313T012814_20230313T012826_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_20230313T013052_20230313T013139_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_20230313T020958_20230313T021233_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_20230313T025027_20230313T025158_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_20230313T030505_20230313T030626_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_20230313T034529_20230313T035119_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_20230313T043930_20230313T044032_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_20230313T044435_20230313T044646_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_20230313T044802_20230313T045030_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_20230313T045227_20230313T045349_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_20230313T050710_20230313T051001_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_20230313T053747_20230313T053951_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_20230313T060427_20230313T060740_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_20230313T060833_20230313T060956_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_20230313T062349_20230313T062837_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_20230313T071012_20230313T071112_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_20230313T074822_20230313T074927_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_20230313T084635_20230313T085029_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_20230313T103454_20230313T103605_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_20230313T120408_20230313T120820_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_20230313T125330_20230313T125507_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_20230313T142954_20230313T143133_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_20230313T154718_20230313T154824_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_20230313T160939_20230313T161237_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_20230313T161331_20230313T161544_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_20230313T165955_20230313T170149_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_20230313T170837_20230313T171317_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_20230313T175014_20230313T175408_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_20230313T194222_20230313T194236_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_20230313T194316_20230313T194347_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_20230313T202857_20230313T203031_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_20230313T211739_20230313T211803_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_20230313T213913_20230313T214247_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_20230313T225707_20230313T225730_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_20230313T225741_20230313T225803_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_20230313T225957_20230313T230106_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_20230313T230519_20230313T230542_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_20230313T231715_20230313T231825_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_20230313T233819_20230313T233941_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_20230313T234451_20230313T234800_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_20230313T011421_20230313T011616_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_20230313T011847_20230313T012011_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_20230313T012656_20230313T012814_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_20230313T020644_20230313T020958_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_20230313T025240_20230313T025258_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_20230313T025318_20230313T025343_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_20230313T032731_20230313T032944_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_20230313T040725_20230313T040832_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_20230313T043843_20230313T043929_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_20230313T044647_20230313T044802_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_20230313T075852_20230313T080416_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_20230313T093215_20230313T093325_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_20230313T093621_20230313T093712_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_20230313T093719_20230313T093734_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_20230313T093801_20230313T094554_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_20230313T104353_20230313T104638_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_20230313T110920_20230313T111055_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_20230313T111625_20230313T112540_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_20230313T112549_20230313T112630_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_20230313T112641_20230313T112902_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_20230313T125731_20230313T130446_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_20230313T134852_20230313T134858_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_20230313T143629_20230313T144209_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_20230313T144659_20230313T144823_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_20230313T150259_20230313T150339_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_20230313T153159_20230313T153700_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_20230313T155125_20230313T155336_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_20230313T160451_20230313T160647_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_20230313T161237_20230313T161331_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_20230313T161544_20230313T162232_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_20230313T163621_20230313T164041_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_20230313T164325_20230313T164503_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_20230313T175408_20230313T175926_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_20230313T180000_20230313T180110_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_20230313T193224_20230313T194221_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_20230313T210818_20230313T210854_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_20230313T211804_20230313T212257_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_20230313T212657_20230313T212855_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_20230313T214829_20230313T215207_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_20230313T230111_20230313T230447_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_20230313T234801_20230313T235010_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records

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

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

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

Number of products with errors:

# 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: 65

# 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: 141

# 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	194	194	6	188	0
SIR_NOPR1B	139	139	0	139	0
SIR_NOPN1B	114	114	1	113	0
SIR_NOPM_2	194	194	136	58	0
SIR_NOPR_2	139	139	76	62	1
SIR_NOPN_2	114	114	41	73	0

# 7.1 QCC Errors

# Number of QCC reports with errors:

6

Total number of	occurrences	Λf	aach	orror

Product Type RLOBOPNCDF	RL	RL	RLOBOPNCDF	RL	RL	-	-	-	-	-
SIR NOPR 2 1	1	1	1	1	1					

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

# 7.2 QCC Warnings

## Number of QCC reports with warnings

1697

Total number	of occurrences	of each warning

Product Type	BCSHNCDF	IOHHMOOR	MVIOEPFDNCDF	MVIOEPNCDF	MVIONCDF	RBSZOPOEPFDNCDF	RBSZOPOEPFDPLRMNC
SIR_NOPM1B	188	0	0	0	0	0	0
SIR_NOPM_2	0	0	41	47	0	41	0
SIR_NOPN1B	110	0	0	0	0	0	0
SIR_NOPN_2	0	0	11	30	7	27	27
SIR_NOPR1B	134	0	0	0	0	0	0
SIR_NOPR_2	0	1	22	36	1	26	17

Product Type	RBSZOPOEPNCDF	RPEPOPFDLRMNCDF	RPEPOPFDPLRMSARNC	RPEPOPFDPLRMSINNCD	RPEPOPFDSARNCDF	RPEPOPFDSINNCDF	RPEPOPLRMNCDF
SIR_NOPM1B	0	0	0	0	0	0	0
SIR_NOPM_2	33	36	0	0	0	0	28
SIR_NOPN1B	0	0	0	0	0	0	0
SIR_NOPN_2	18	0	0	12	0	30	0
SIR_NOPR1B	0	0	0	0	0	0	0
SIR NOPR 2	12	0	34	0	39	0	0

Product Type	RPEPOPSARNCDF	RPEPOPSINNCDF	RSSBCONCDF	RSSHAOFDNCDF	RSSHAOFDPLRMNCDF	RSSHAONCDF	RSWHOEPFDNCDF
SIR_NOPM1B	0	0	0	0	0	0	0
SIR_NOPM_2	0	0	5	30	0	5	33
SIR_NOPN1B	0	0	0	0	0	0	0
SIR_NOPN_2	0	19	20	47	60	29	31
SIR_NOPR1B	0	0	0	0	0	0	0
SIR NOPR 2	35	0	5	51	21	8	18

Product Type	RSWHOEPFDPLRMNCDF	RSWHOEPNCDF	SOOHHIFHD	SCSTODHRNCDF	SCSTODNCDF	•	•
SIR_NOPM1B	0	0	0	0	0		
SIR_NOPM_2	0	3	0	0	0		
SIR_NOPN1B	0	0	0	42	0		
SIR_NOPN_2	28	8	1	0	0		
SIR_NOPR1B	0	0	0	139	9		
SIR NOPR 2	34	5	3	0	0		

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				
RPEPOPFDLRMNCDF	RangePeakinessExcludingPolarOPFD2LRMNetCDF	The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees				
RPEPOPFDPLRMSAR NCDF	RangePeakinessExcludingPolarOPFD2PLRMSARNetCDF	The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees				
RPEPOPFDPLRMSINN CDF	RangePeakinessExcludingPolarOPFD2PLRMSINNetCDF	The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees				
RPEPOPFDSARNCDF	RangePeakinessExcludingPolarOPFD2SARNetCDF	The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees				
RPEPOPFDSINNCDF	RangePeakinessExcludingPolarOPFD2SINNetCDF	The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees				
RPEPOPLRMNCDF	RangePeakinessExcludingPolarOPLRMNetCDF	The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees				
RPEPOPSARNCDF	RangePeakinessExcludingPolarOPSARNetCDF	The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees				
RPEPOPSINNCDF	RangePeakinessExcludingPolarOPSINNetCDF	The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees				
RSSBCONCDF	RangeSeaStateBiasCorrectionOceanNetCDF	The sea state bias correction should be between -500mm and 0mm (or missing) for surface type = ocean				
RSSHAOFDNCDF	RangeSeaSurfaceHeightAnomalyOceanFD3NetCDF	The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean				
RSSHAOFDPLRMNCD F	RangeSeaSurfaceHeightAnomalyOceanFD3PLRMNetCDF	The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean				
RSSHAONCDF	RangeSeaSurfaceHeightAnomalyOceanNetCDF	The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean				
RSWHOEPFDNCDF	RangeSignificantWaveHeightOceanExcludingPolarFD2NetCDF	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees				
RSWHOEPFDPLRMNC DF	RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees				
RSWHOEPNCDF	RangeSignificantWaveHeightOceanExcludingPolarNetCDF	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees				
SOOHHIFHD	SameOrOneHigher1HzIndexFor20HzData	The 1 Hz index of a 20 Hz sample should be the same or 1 higher than its previous sample				
SCSTODHRNCDF	SequenceCounterStepTODHRNetCDF	The sequence counter should be modulo 4 higher with regard to the previous sequence counter				
SCSTODNCDF	SequenceCounterStepTODNetCDF	The sequence counter should be one higher (modulo 16384) with regard to the previous sequence counter				

# 7.3 Missing QCC Reports

Number of products with missing QCC reports:

0