

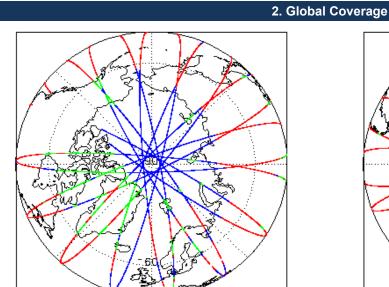
QA4EO Daily Report for IOP data:

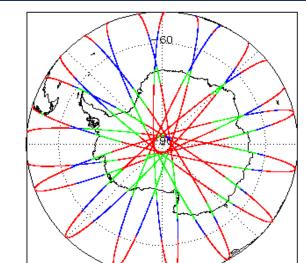
<u>05/12/2020</u>

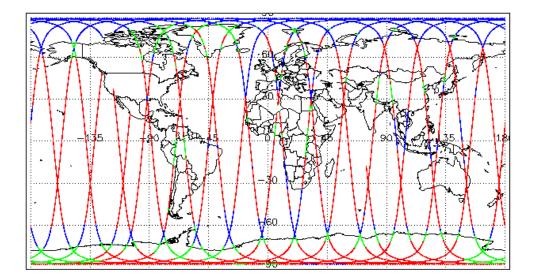
| Report Production: | 00 D 0000 | Check | L1 & L2 | P2P |
|--------------------|-----------------------------------------------------------------|--------------------------------------------|--------------------------|------------------------|
| | 08-Dec-2020 | Server check: science-pds.cryosat.esa.int | Nominal | Nominal |
| . | CryoSat Ocean Processor | Server check: calval-pds.cryosat.esa.int | Nominal | Nominal |
| Processor Used: | | Product Software Check | Nominal | Nominal |
| Data Used: | Intermediate Ocean Products (IOP) L1B, L2 & P2P Science Data | Product Format Check | Nominal | Nominal |
| Data Used: | | Product Header Analysis | See Sections 4.2 and 5.2 | See Section 6.2 |
| | | Auxiliary Data File Usage Check | See Section 4.3 and 5.3 | See Section 6.3 |
| | | Auxiliary Correction Error Check | See Section 5.4 | See Section 6.4 |
| | | Measurement Confidence Data Check | See Section 4.5, 4.6 | Nominal |
| | | Range, SWH & Backscatter Measurement Check | See Section 5.6 | See Section 6.6 |
| | | Ocean Retracking Quality Check | See Section 5.7 | See Section 6.7 |
| | | QCC Error/ Warning Check | See Section 7.1 and 7.2 | See Section 7.1 and 7. |

1. Overview

| Mission / Instru | iment News |
|------------------|-----------------|
| 04-Dec-2020 | None |
| 05-Dec-2020 | None |
| 06-Dec-2020 | Nothing planned |







Mode Coverage



3. Instrument Configuration

SIRAL instrument(s) in use:

SIRAL - A

0

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

4. IOP Level 1B Data Quality Check

4.1 L1B Product Format Check

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

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 11b_proc_flag_hr flag is currently set all L1B IOPR and IOPN products because the 11b_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

Not 0!

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

| Number of products with errors: 369 | | |
|-----------------------------------------|-------------------------------------------------------------|------------------------------------------------------|
| Product | AUX File | Comment |
| All IOPM1B files missing (158 products) | CS_OPER_AUXIIONGIM_20201205T000000_20 201205T235959_0001 | Forecast AUXI file missing at the time of processing |
| All IOPN1B files missing (106 products) | CS_OPER_AUXIIONGIM_20201205T000000_20 201205T235959_0001 | Forecast AUXI file missing at the time of processing |
| All IOPR1B files missing (105 products) | CS_OPER_AUXIIONGIM_20201205T000000_20 201205T235959_0001 | Forecast AUXI file missing at the time of processing |
| | | |

| 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.

369

Number of products with errors:

| Product | Test Failed | Description |
|-----------------------------------------|----------------------------|---------------------------------------------------------------------------------------|
| All IOPM1B files missing (158 products) | | Due to a missing AUXI_IONGIM file, there is an error with the lonospheric correction. |
| All IOPN1B files missing (106 products) | GIM Ionospheric correction | Due to a missing AUXI_IONGIM file, there is an error with the lonospheric correction. |
| All IOPR1B files missing (105 products) | GIM Ionospheric correction | Due to a missing AUXI_IONGIM file, there is an error with the lonospheric correction. |
| | | |

4.5 L1B Measurement Confidence Data Check

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

Attitude Correction Missing: This flag is currently set in error for IOPR products due to a configuration issue. 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 products over land, but this is to be expected.

23

Number of products with errors:

| Product | Test Failed | Description |
|---------------------------------------------------------|--------------|------------------------------------------------------|
| CS_OFFL_SIR_IOPM1B_20201205T045927_20201205T052042_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPM1B_20201205T054825_20201205T055705_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPM1B_20201205T055802_20201205T060206_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPM1B_20201205T062454_20201205T062620_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPM1B_20201205T062727_20201205T063209_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPM1B_20201205T081226_20201205T082203_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPM1B_20201205T091236_20201205T092640_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPM1B_20201205T202911_20201205T204242_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20201205T061216_20201205T061629_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20201205T092857_20201205T093200_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20201205T093228_20201205T093439_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20201205T134756_20201205T134935_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20201205T161604_20201205T161646_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20201205T193340_20201205T193540_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20201205T043506_20201205T043624_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20201205T052042_20201205T052242_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20201205T071213_20201205T071841_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20201205T082203_20201205T082249_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20201205T085102_20201205T085339_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20201205T134935_20201205T135307_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20201205T152809_20201205T153207_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20201205T183125_20201205T183824_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20201205T215339_20201205T215556_C001 | Loss of Echo | The tracking echo is missing for one or more records |

5. IOP Level 2 Data Quality Check

5.2 L2 Product Header Analysis

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

Number of products with errors:

5.3 L2 Auxiliary Data File Usage Check

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

| Number of products with errors: 369 | | |
|-----------------------------------------|-------------------------------------------------------------|------------------------------------------------------|
| Product | AUX File | Comment |
| All IOPM_2 files missing (158 products) | CS_OPER_AUXIIONGIM_20201205T000000_20 201205T235959_0001 | Forecast AUXI file missing at the time of processing |
| All IOPN_2 files missing (106 products) | CS_OPER_AUXIIONGIM_20201205T000000_20 201205T235959_0001 | Forecast AUXI file missing at the time of processing |
| All IOPR_2 files missing (105 products) | CS_OPER_AUXIIONGIM_20201205T000000_20 201205T235959_0001 | Forecast AUXI file missing at the time of processing |
| | | |

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).

Not 0!

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. The affected products are not reported in the table below.

> Sea State Bias & Sea State Bias PLRM: The error value is currently set for products over sea ice, but this is to be expected.

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

430

> 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.

| Product | Test Failed | Description |
|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| All IOPM_2 files missing (158 products) | GIM lonospheric correction | There is an error with the GIM lonospheric correction for one or more records |
| All IOPN_2 files missing (106 products) | GIM Ionospheric correction | There is an error with the GIM lonospheric correction for one or more records |
| All IOPR_2 files missing (105 products) | GIM lonospheric correction | There is an error with the GIM lonospheric correction for one or more records |
| CS_OFFL_SIR_IOPM_2_20201205T024139_20201205T024314_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPM_2_20201205T091236_20201205T092640_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPM_2_20201205T145036_20201205T145211_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPM_2_20201205T204959_20201205T205545_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPN_2_20201205T003439_20201205T003710_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPN_2_20201205T020539_20201205T020930_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records |
| CS_OFFL_SIR_IOPN_2_20201205T025601_20201205T025658_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPN_2_20201205T030636_20201205T030757_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_IOPN_2_20201205T034523_20201205T034837_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPN_2_20201205T052242_20201205T052708_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPN_2_20201205T053255_20201205T053413_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPN_2_20201205T061216_20201205T061629_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records |
| CS_OFFL_SIR_IOPN_2_20201205T071025_20201205T071212_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPN_2_20201205T075433_20201205T075535_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPN_2_20201205T080103_20201205T080153_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPN_2_20201205T084835_20201205T085102_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) |
| | Mean Sea Surface (1), Mean Dynamic | There is an error with the MSS height (solution 1) and the Mean Dyna |

| CS_OFFL_SIR_IOPN_2_20201205T093228_20201205T093439_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), 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), the Total Geocentric Ocean Tide (solution 2: FES) and the Non-Equilibrium Long Period Ocean Tide for one or more records |
|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CS_OFFL_SIR_IOPN_2_20201205T110910_20201205T111302_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPN_2_20201205T111813_20201205T111847_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPN_2_20201205T120855_20201205T121037_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPN_2_20201205T134756_20201205T134935_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPN_2_20201205T151803_20201205T151922_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPN_2_20201205T152452_20201205T152809_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPN_2_20201205T161604_20201205T161646_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPN_2_20201205T161915_20201205T162045_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPN_2_20201205T165728_20201205T165842_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPN_2_20201205T170350_20201205T170705_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records |
| CS_OFFL_SIR_IOPN_2_20201205T183824_20201205T184101_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPN_2_20201205T184255_20201205T184837_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPN_2_20201205T193340_20201205T193540_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPN_2_20201205T201657_20201205T202001_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPN_2_20201205T211251_20201205T211358_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPN_2_20201205T215556_20201205T215801_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPN_2_20201205T225206_20201205T225755_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT) | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records |
| CS_OFFL_SIR_IOPN_2_20201205T234449_20201205T234722_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPR_2_20201205T011333_20201205T012328_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20201205T024600_20201205T024739_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPR_2_20201205T025658_20201205T030446_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20201205T043632_20201205T044620_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20201205T061629_20201205T062406_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20201205T075535_20201205T080103_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20201205T080154_20201205T080242_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPR_2_20201205T093439_20201205T094132_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20201205T111302_20201205T111812_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20201205T125038_20201205T125831_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20201205T142908_20201205T143639_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20201205T144041_20201205T144200_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOPR_2_20201205T144548_20201205T144739_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |

| CS_OFFL_SIR_IOPR_2_20201205T160542_20201205T161440_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
|---------------------------------------------------------|------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| CS_OFFL_SIR_IOPR_2_20201205T161440_20201205T161603_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20201205T174649_20201205T175340_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20201205T175340_20201205T175748_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20201205T192632_20201205T193231_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20201205T193231_20201205T193340_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOPR_2_20201205T201230_20201205T201657_C001 | Mean Sea Surface (1) | There is an error with the MSS height (solution 1) for one or more records |
| CS_OFFL_SIR_IOPR_2_20201205T210614_20201205T210840_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 (20Hz)

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.

89

| Product | Test Failed | Description |
|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CS_OFFL_SIR_IOPM_2_20201204T234957_20201205T002319_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T002728_20201205T002906_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T003015_20201205T003439_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T003924_20201205T010150_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T010153_20201205T010329_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T013139_20201205T020120_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T020930_20201205T021518_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T021844_20201205T022447_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T022456_20201205T023246_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T030757_20201205T034133_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T034837_20201205T035351_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T040036_20201205T040437_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T041032_20201205T041452_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T043105_20201205T043506_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T044620_20201205T045641_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |

| CS_OFFL_SIR_IOPM_2_20201205T052708_20201205T052838_C001 OCOG Altimeter Range Quality, OCOG The OCOG Altimeter Range and Backscatter Quality Flags have for one or more records. CS_OFFL_SIR_IOPM_2_20201205T052845_20201205T053255_C001 OCOG Altimeter Range Quality, OCOG The OCOG Altimeter Range and Backscatter Quality Flags have for one or more records. CS_OFFL_SIR_IOPM_2_20201205T053757_20201205T053757_20201205T054801_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have for one or more records. The OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have for one or more records. CS_OFFL_SIR_IOPM_2_20201205T054825_20201205T055705_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have for one or more records. The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have for one or more records. CS_OFFL_SIR_IOPM_2_20201205T055802_20201205T055705_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have for one or more records. The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have for one or more records. CS_OFFL_SIR_IOPM_2_20201205T055802_20201205T060206_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have for one or more records. The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have for one or more records. CS_OFFL_SIR_IOPM_2_20201205T055802_20201205T060206_C001 Ocean Altimeter Range and Backscatter Quality flags have for one or more records. The Ocean Altimeter Range and Backscatter Quality Flags have for one or more records. | e been set ity Flags lave been ity Flags lave been ity Flags lave been ity Flags lave been ity Flags |
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| CS_OFFL_SIR_IOPM_2_202012051052845_202012051053255_C001 Backscatter Quality for one or more records. CS_OFFL_SIR_IOPM_2_20201205T053757_20201205T054801_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags Altimeter Range and Backscatter Quality. OCOG The Ocean Altimeter Range, SSHA, SWH and the OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags set for one or more records. CS_OFFL_SIR_IOPM_2_20201205T054825_20201205T054825_20201205T055705_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags set for one or more records. CS_OFFL_SIR_IOPM_2_20201205T055802_20201205T055705_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags set for one or more records. CS_OFFL_SIR_IOPM_2_20201205T055802_20201205T0650206_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags set for one or more records. | ity Flags lave been ity Flags lave been ity Flags lave been ity Flags lave been ity Flags |
| CS_OFFL_SIR_IOPM_2_20201205T053757_20201205T054801_C001 and Backscatter Quality, OCOG and the OCOG Altimeter Range and Backscatter Quality Flags Altimeter Range and Backscatter Quality Cs_OFFL_SIR_IOPM_2_20201205T054825_20201205T055705_C001 Ocean Altimeter Range, SSHA, SWH The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS_OFFL_SIR_IOPM_2_20201205T054825_20201205T055705_C001 Ocean Altimeter Range and Backscatter Quality, OCOG The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags CS_OFFL_SIR_IOPM_2_20201205T055802_20201205T060206_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, Flags The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags | ity Flags ity Flags ity Flags ity Flags ity Flags ity Flags ity Flags |
| CS_OFFL_SIR_IOPM_2_20201205T054825_20201205T055705_C001 and Backscatter Quality, OCOG and the OCOG Altimeter Range and Backscatter Quality Flags Altimeter Range and Backscatter Quality Flags Altimeter Range, SSHA, SWH CS_OFFL_SIR_IOPM_2_20201205T055802_20201205T060206_C001 and Backscatter Quality, OCOG and the OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags and Backscatter Quality, OCOG and the OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags and Backscatter Quality, OCOG and the OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags and Backscatter Quality, OCOG and the OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags and Backscatter Quality, OCOG and the OCOG Altimeter Range and Backscatter Quality Flags and Backscatter Quality | ity Flags ave been ity Flags ave been ity Flags ity Flags |
| CS_OFFL_SIR_IOPM_2_20201205T055802_20201205T060206_C001 and Backscatter Quality, OCOG and the OCOG Altimeter Range and Backscatter Quality Flags | ity Flags have been ity Flags |
| | ity Flags |
| CS_OFFL_SIR_IOPM_2_20201205T060744_20201205T060959_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG and the OCOG Altimeter Range and Backscatter Quality Flags Altimeter Range and Backscatter Quality set for one or more records. | |
| CS_OFFL_SIR_IOPM_2_20201205T062727_20201205T063209_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG and the OCOG Altimeter Range and Backscatter Quality Flags Altimeter Range and Backscatter Quality set for one or more records. | |
| CS_OFFL_SIR_IOPM_2_20201205T063349_20201205T065947_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags Altimeter Range and Backscatter Quality set for one or more records. | |
| CS_OFFL_SIR_IOPM_2_20201205T070757_20201205T071025_C001 OCOG Altimeter Range Quality, OCOG Altimeter Range and Backscatter Quality Flags hav for one or more records. | been set |
| CS_OFFL_SIR_IOPM_2_20201205T071841_20201205T073109_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags Altimeter Range and Backscatter Quality set for one or more records. | |
| CS_OFFL_SIR_IOPM_2_20201205T073146_20201205T074859_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG and the OCOG Altimeter Range and Backscatter Quality Flags Altimeter Range and Backscatter Quality Flags Set for one or more records. | |
| CS_OFFL_SIR_IOPM_2_20201205T075253_20201205T075433_C001 OCOG Altimeter Range Quality, OCOG Altimeter Range and Backscatter Quality Flags hav for one or more records. | been set |
| CS_OFFL_SIR_IOPM_2_20201205T080243_20201205T080311_C001 OCOG Altimeter Range Quality, OCOG In OCOG Altimeter Range and Backscatter Quality Flags have for one or more records. | been set |
| CS_OFFL_SIR_IOPM_2_20201205T080514_20201205T080521_C001 OCOG Altimeter Range Quality, OCOG Altimeter Range and Backscatter Quality Flags hav for one or more records. | been set |
| CS_OFFL_SIR_IOPM_2_20201205T081226_20201205T082203_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags Altimeter Range and Backscatter Quality Flags set for one or more records. | |
| CS_OFFL_SIR_IOPM_2_20201205T082407_20201205T083912_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags Altimeter Range and Backscatter Quality Flags Strain Provide Altimeter Range and Backscatter Quality Flags Strain Provide Altimeter Range and Backscatter Quality Flags Strain Provide Altimeter Range and Backscatter Quality Strain Provide Altimeter Range Altimeter Range and Backscatter Quality Strain Provide Altimeter Range Altimeter | |
| CS_OFFL_SIR_IOPM_2_20201205T084139_20201205T084636_C001 OCOG Altimeter Range Quality, OCOG Altimeter Range and Backscatter Quality Flags hav for one or more records. | been set |
| CS_OFFL_SIR_IOPM_2_20201205T085538_20201205T090756_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags Altimeter Range and Backscatter Quality Flags Set for one or more records. | |
| CS_OFFL_SIR_IOPM_2_20201205T090820_20201205T090856_C001 OCOG Altimeter Range Quality, OCOG Altimeter Range and Backscatter Quality Flags hav for one or more records. | been set |
| CS_OFFL_SIR_IOPM_2_20201205T091236_20201205T092640_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags Altimeter Range and Backscatter Quality set for one or more records. | |
| CS_OFFL_SIR_IOPM_2_20201205T100331_20201205T101751_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags Altimeter Range and Backscatter Quality set for one or more records. | |
| CS_OFFL_SIR_IOPM_2_20201205T102103_20201205T102549_C001 OCOG Altimeter Range Quality, OCOG Altimeter Range and Backscatter Quality Flags hav for one or more records. | been set |
| CS_OFFL_SIR_IOPM_2_20201205T102555_20201205T102607_C001 OCOG Altimeter Range Quality, OCOG Altimeter Range and Backscatter Quality Flags hav for one or more records. | been set |
| CS_OFFL_SIR_IOPM_2_20201205T103321_20201205T105915_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags Altimeter Range and Backscatter Quality set for one or more records. | |
| CS_OFFL_SIR_IOPM_2_20201205T113311_20201205T115419_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG and the OCOG Altimeter Range and Backscatter Quality Flags Altimeter Range and Backscatter Quality set for one or more records. | |

| CS_OFFL_SIR_IOPM_2_20201205T115508_20201205T115638_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CS_OFFL_SIR_IOPM_2_20201205T120131_20201205T120505_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T121238_20201205T123953_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T131153_20201205T133554_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T133923_20201205T134420_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T134428_20201205T134756_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T135307_20201205T142601_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T143811_20201205T144041_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T145317_20201205T145618_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T151922_20201205T152452_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T153207_20201205T160542_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T161742_20201205T161914_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T163709_20201205T165311_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T165842_20201205T170350_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T171041_20201205T174552_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T180842_20201205T183125_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T185026_20201205T190241_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T191156_20201205T192306_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T193540_20201205T193730_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T193854_20201205T195620_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T195811_20201205T201230_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T202303_20201205T202708_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T202911_20201205T204242_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T204623_20201205T204955_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T204959_20201205T205545_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T210028_20201205T210034_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |

| CS_OFFL_SIR_IOPM_2_20201205T211851_20201205T213512_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CS_OFFL_SIR_IOPM_2_20201205T214046_20201205T214915_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T214949_20201205T215339_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T215801_20201205T220612_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T220906_20201205T222412_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T223649_20201205T223732_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T230701_20201205T230705_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T230711_20201205T231049_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T231052_20201205T233258_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T233928_20201205T234449_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPM_2_20201205T234909_20201206T001121_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_IOPN_2_20201205T035351_20201205T035504_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_IOPN_2_20201205T102622_20201205T102629_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_IOPN_2_20201205T120855_20201205T121037_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_IOPN_2_20201205T161604_20201205T161646_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_IOPN_2_20201205T184255_20201205T184837_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_IOPR_2_20201205T042409_20201205T042555_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_IOPR_2_20201205T060206_20201205T060744_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_IOPR_2_20201205T093201_20201205T093228_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_IOPR_2_20201205T160542_20201205T161440_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_IOPR_2_20201205T174649_20201205T175340_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_IOPR_2_20201205T224509_20201205T224641_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 (20Hz 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.

85

| Product | Test Failed | Description |
|---------------------------------------------------------|-------------|----------------------------------------------------------------------------------------|
| CS OFFE SIR TOPN 2 202012051002906 202012051003014 CO01 | | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |

| CS_OFFL_SIR_IOPN_2_20201205T003439_20201205T003710_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CS_OFFL_SIR_IOPN_2_20201205T020539_20201205T020930_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T021519_20201205T021643_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T024112_20201205T024139_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T025118_20201205T025241_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T025350_20201205T025424_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T034523_20201205T034837_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T035351_20201205T035504_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T052242_20201205T052708_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T053255_20201205T053413_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T061216_20201205T061629_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T070049_20201205T070210_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T075119_20201205T075252_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T080103_20201205T080153_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T080859_20201205T081029_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T085340_20201205T085458_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T090857_20201205T091154_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T092857_20201205T093200_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T093228_20201205T093439_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T102741_20201205T103200_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T110910_20201205T111302_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T113020_20201205T113310_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T133755_20201205T133923_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T134756_20201205T134935_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T145618_20201205T145757_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T145814_20201205T150148_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| | | |

| CS_OFFL_SIR_IOPN_2_20201205T152452_20201205T152809_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CS_OFFL_SIR_IOPN_2_20201205T163453_20201205T163708_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T170350_20201205T170705_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T183824_20201205T184101_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T193340_20201205T193540_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T193730_20201205T193849_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T205545_20201205T205808_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T211251_20201205T211358_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T211453_20201205T211552_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T213512_20201205T214046_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T225206_20201205T225755_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T233531_20201205T233648_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPN_2_20201205T234449_20201205T234722_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T011333_20201205T012328_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T024600_20201205T024739_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T025241_20201205T025322_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T025658_20201205T030446_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T034133_20201205T034523_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T043632_20201205T044620_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T053414_20201205T053757_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T071213_20201205T071841_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T073109_20201205T073146_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T085102_20201205T085339_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T093439_20201205T094132_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T095629_20201205T100331_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T111302_20201205T111812_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |

| CS_OFFL_SIR_IOPR_2_20201205T111847_20201205T112017_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CS_OFFL_SIR_IOPR_2_20201205T115638_20201205T115859_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been |
| CS_OFFL_SIR_IOPR_2_20201205T125038_20201205T125831_C001 | PLRM Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality | set for one or more records. The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T125851_20201205T130125_C001 | PLRM OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T134935_20201205T135307_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T142730_20201205T142755_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T142908_20201205T143639_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T144041_20201205T144200_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T144548_20201205T144739_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T144856_20201205T145035_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T151232_20201205T151803_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T152809_20201205T153207_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T160542_20201205T161440_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T161440_20201205T161603_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T162110_20201205T162340_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T162601_20201205T162810_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T165312_20201205T165728_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T170705_20201205T171041_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T174649_20201205T175340_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM Ocean Altimeter Range, SSHA, SWH | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T175340_20201205T175748_C001 | Ocean Attimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM Ocean Altimeter Range, SSHA, SWH | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T175811_20201205T180842_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_IOPR_2_20201205T183125_20201205T183824_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM Ocean Altimeter Range SSHA SWH | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T192632_20201205T193231_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T195621_20201205T195811_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T201230_20201205T201657_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |
| CS_OFFL_SIR_IOPR_2_20201205T210614_20201205T210840_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. |

| CS_OFFL_SIR_IOPR_2_20201205T210841_20201205T211251_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. | | | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|
| CS_OFFL_SIR_IOPR_2_20201205T222412_20201205T222636_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. | | | | | | | |
| CS_OFFL_SIR_IOPR_2_20201205T222651_20201205T223003_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. | | | | | | | |
| CS_OFFL_SIR_IOPR_2_20201205T224509_20201205T224641_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for one or more records. | | | | | | | |
| CS_OFFL_SIR_IOPR_2_20201205T224641_20201205T225206_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records. | | | | | | | |
| CS_OFFL_SIR_IOPR_2_20201205T225755_20201205T225839_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 & 1Hz PLRM) | | | | | | | | | |
| Currently, there are several common flags raised in the Level 2 products, wh | ich are summarised below. | | | | | | | | |
| > 1Hz and 1Hz Ocean SSHA Quality Flags: These flags are currently set for proc | | | | | | | | | |
| Number of products with errors: 198 | | - - | | | | | | | |
| 5.8 L2 Ocean Retracking Quality Check | | | | | | | | | |
| L2 Retracking Flags (20Hz) | | | | | | | | | |
| CryoSat L2 data includes an ocean retracking quality flag for each 20-Hz measure | ment record. The bit value of this flag indic | ates any problems when set | | | | | | | |
| Ocean Retracking Quality Flag: This flag is currently set for products over land a | - | | | | | | | | |
| Number of products with errors: 70 | | | | | | | | | |
| | | | | | | | | | |
| L2 Retracking Flags (20Hz, PLRM) | | | | | | | | | |
| CryoSat L2 data includes an ocean retracking quality flag for each 20-Hz PLRM m | easurement record. The bit value of this fla | g indicates any problems when set. | | | | | | | |
| Ocean Retracking Quality Flag (PLRM): This flag is currently set for products IO | PR and IOPN products over sea ice, but th | is is to be expected. | | | | | | | |
| Number of products with errors: 142 | | | | | | | | | |
| 6. <mark>IOP</mark> L2 P | Pole-to-Pole Data Quality | Check | | | | | | | |
| 6.1 P2P Product Format Check | | | | | | | | | |
| Each product, retrieved and unpacked from the science server, is checked to ensu | re it consists of both an XML header file (.h | HDR) and a NetCDF product file (.nc). | | | | | | | |
| Number of products with errors: 0 | | | | | | | | | |
| 6.2 P2P Product Header Analysis | | | | | | | | | |
| For all products, a series of pre-defined checks are performed on the MPH and SF Number of products with errors: Not 0! | PH in order to identify any inconsistencies a | ind/or errors raised by the ground-segment processing chain. | | | | | | | |
| 6.3 P2P Auxiliary Data File Usage Check | | | | | | | | | |
| Each product is checked for missing Data Set Descriptors with respect to a pre-de | termined baseline and also to check the va | lidity of Auxiliary Data Files is correct. | | | | | | | |
| Number of products with errors: 30 | | | | | | | | | |
| | 1 | | | | | | | | |
| Product | AUX File | Comment | | | | | | | |
| All IOP_2 products missing | GIM Ionospheric correction | The GIM ionospheric correction is missing | | | | | | | |
| 6.4 P2P Auxiliary Correction Error Check | | | | | | | | | |
| For all products, the auxiliary corrections within the Geophysical Group are checke | ed for the default error value (32767). | | | | | | | | |
| Currently, there are some common auxiliary correction errors raised in the L followed by a table highlighting any additional issues which may arise from the source of the | evel 2 products which are expected due | to surface type. All common flags are summarised in the list below, | | | | | | | |
| >ECMWF Meteo Corrections: Currently the following corrections are not computed over CONTINENTAL ICE: Dry Tropospheric Correction, Wet Tropospheric Correction, Inverse Barometric Correction and the U-Wind and V-Wind components of the ECMWF model wind vector. This is a known anomaly (CRYO-COP-3) and will be resolved in a future IPF update. The affected products are not reported in the table below. | | | | | | | | | |
| > Sea State Bias & Sea State Bias PLRM: The error value is currently set for pro | ducts over sea ice, but this is to be expected | ed. | | | | | | | |
| > Mean Sea Surface: The error value is currently set for products over land and s | > 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 I | | | | | | | | | |
| > 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 | and and sea ice, but this is to be expected. | | | | | | | | |

| Product | Test Failed | Description |
|--------------------------------------------------------|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| CS_OFFL_SIR_IOP_220201204T234059_20201205T003039_C001 | GIM Ionospheric correction | There is an error with the GIM lonospheric correction for one or more records |
| CS_OFFL_SIR_IOP_2_20201205T003039_20201205T012014_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |

| CS_OFFL_SIR_IOP_220201205T012014_20201205T020954_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CS_OFFL_SIR_IOP_220201205T020954_20201205T025929_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_220201205T025929_20201205T034908_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT) | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records |
| CS_OFFL_SIR_IOP_220201205T034908_20201205T043843_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_220201205T043843_20201205T052823_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_220201205T052823_20201205T061758_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records |
| CS_OFFL_SIR_IOP_220201205T061758_20201205T070738_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_220201205T070738_20201205T075713_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_220201205T075713_20201205T084652_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_220201205T084652_20201205T093627_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), 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), the Total Geocentric Ocean Tide (solution 2: FES) and the Non-Equilibrium Long Period Ocean Tide for one or more records |
| CS_OFFL_SIR_IOP_220201205T093627_20201205T102607_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_220201205T102607_20201205T111542_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_220201205T111542_20201205T120522_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_220201205T120522_20201205T125457_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_220201205T125457_20201205T134436_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_220201205T134436_20201205T143412_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_220201205T143412_20201205T152351_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_220201205T152351_20201205T161326_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_220201205T161326_20201205T170306_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_220201205T170306_20201205T175241_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records |
| CS_OFFL_SIR_IOP_220201205T175241_20201205T184220_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_220201205T184220_20201205T193155_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_220201205T193155_20201205T202135_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_220201205T202135_20201205T211110_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_220201205T211110_20201205T220050_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_220201205T220050_20201205T225025_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_220201205T225025_20201205T234004_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT) | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records |
| CS_OFFL_SIR_IOP_220201205T234004_20201206T002940_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| 6 5 P2P Measurement Confidence Data Check | | |

6.5 P2P Measurement Confidence Data Check

CryoSat P2P data includes a measurement confidence flag for each 20-Hz measurement record. The bit value of this flag indicates any problems when set.

6.6 P2P Measurement Quality Flag Check

| P2P | Quality | y Flags | $(20H_{7})$ |
|---------------|---------|---------|-------------|
| F 2F 1 | guant | v riays | (20112) |

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

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

 Number of products with errors:
 30

 P2P Quality Flags (20Hz PLRM)

29

30

27

30

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

Number of products with errors:

P2P Quality Flags (1 Hz & 1Hz PLRM)

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

Number of products with errors:

6.8 P2P Ocean Retracking Quality Check

P2P Retracking Flags (20Hz)

Cryosat P2P data includes an ocean retracking quality flag (field 19) for each 20-Hz measurement record. The bit value of this flag indicates any problems when set.

Ocean Retracking Quality Flag (PLRM): This flag is currently set for products IOPR and IOPN products over sea ice, but this is to be expected.

Number of products with errors:

P2P Retracking Flags PLRM

CryoSat L2 data includes an ocean retracking quality flag for each 20-Hz PLRM measurement record. The bit value of this flag indicates any problems when set.

Ocean Retracking Quality Flag (PLRM): This flag is currently set for products IOPR and IOPN products over sea ice, but this is to be expected.

10

2240

Number of products with errors:

7. IOP QCC Report Analysis

The Quality Control for CryoSat (QCC) facility performs a primary survey of data products immediately after production by the PDS and LTA processing facilities. A list of the tests which raised errors or warnings is provided below.

| Product type | No. Products | No. QCC Reports | No. Valid | No. Warnings | No. Errors |
|--------------|--------------|-----------------|-----------|--------------|------------|
| SIR_IOPM1B | 221 | 221 | 8 | 213 | 0 |
| SIR_IOPR1B | 116 | 98 | 2 | 96 | 0 |
| SIR_IOPN1B | 98 | 116 | 0 | 116 | 0 |
| SIR_IOPM_2 | 221 | 221 | 165 | 56 | 0 |
| SIR_IOPR_2 | 116 | 98 | 44 | 54 | 0 |
| SIR_IOPN_2 | 98 | 116 | 34 | 80 | 2 |
| SIR_IOP_P2P | 29 | 29 | 0 | 27 | 2 |

7.1 QCC Errors

Number of QCC reports with errors:

| Total number of occurrences of each error | | | | | | | | | | | |
|-------------------------------------------|------------|----|------------|----|---|---|---|---|---|---|---|
| Product Type | RLOBOPNCDF | RL | RLOBOPNCDF | RL | - | - | - | - | - | - | - |
| SIR_IOPR_2 | 2 | 2 | 2 | 2 | | | | | | | |
| | | | | | | | | | | | |
| Product Type | RLOBOPNCDF | RL | RLOBOPNCDF | RL | - | - | - | - | - | - | - |
| SIR IOP 2 | 2 | 2 | 2 | 2 | | | | | | | |

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

7.2 QCC Warnings

Number of QCC reports with warnings

| | Total number of occurrences of each warning | | | | | | |
|--------------|---------------------------------------------|-------------------|-----------------|-------------------|--------------|------------------|-------------------|
| Product Type | BCSHNCDF | IOHHMOOR | MVIOEPFDNCDF | MVIOEPNCDF | MVIONCDF | RBSZOPOEPFDNCDF | RBSZOPOEPFDPLRMNC |
| SIR_IOPM1B | 213 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIR_IOPM_2 | 0 | 0 | 44 | 42 | 1 | 44 | 0 |
| SIR_IOPN1B | 96 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIR_IOPN_2 | 0 | 0 | 7 | 32 | 6 | 25 | 23 |
| SIR_IOPR1B | 115 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIR_IOPR_2 | 0 | 2 | 39 | 51 | 0 | 25 | 22 |
| | | | | | | - | |
| Product Type | RBSZOPOEPNCDF | RNELPOTONCDF | RPEPOPFDLRMNCDF | RPEPOPFDPLRMSARNC | | RPEPOPFDSARNCDF | RPEPOPFDSINNCDF |
| SIR_IOPM1B | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIR_IOPM_2 | 37 | 2 | 42 | 0 | 0 | 0 | 0 |
| SIR_IOPN1B | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIR_IOPN_2 | 14 | 1 | 0 | 0 | 24 | 0 | 31 |
| SIR_IOPR1B | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIR_IOPR_2 | 4 | 1 | 0 | 49 | 0 | 63 | 0 |
| | 1 | | | - t- | ÷ | | ÷ |
| Product Type | RPEPOPLRMNCDF | RPEPOPSARNCDF | RPEPOPSINNCDF | RSSBCONCDF | RSSHAOFDNCDF | RSSHAOFDPLRMNCDF | RSSHAONCDF |
| SIR_IOPM1B | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIR_IOPM_2 | 34 | 0 | 0 | 10 | 28 | 0 | 1 |
| SIR_IOPN1B | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIR_IOPN_2 | 0 | 0 | 28 | 13 | 37 | 49 | 27 |
| SIR_IOPR1B | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIR_IOPR_2 | 0 | 51 | 0 | 1 | 67 | 37 | 17 |
| | | | | | | | |
| Product Type | RSWHOEPFDNCDF | RSWHOEPFDPLRMNCDF | RSWHOEPNCDF | SOOHHIFHD | SCSTODHRNCDF | SCSTODNCDF | • |
| SIR_IOPM1B | 0 | 0 | 0 | 0 | 0 | 1 | |
| SIR_IOPM_2 | 39 | 0 | 5 | 0 | 0 | 0 | |
| SIR_IOPN1B | 0 | 0 | 0 | 0 | 42 | 2 | |

| SIR IOPN 2 | 29 | 26 | 11 | 0 | 0 | 0 | |
|--------------|--------------|--------------------|-------------------|---------------|-----------------|--------------------|------------------|
| SIR_IOPR1B | 0 | 0 | 0 | 0 | 116 | 7 | |
| SIR_IOPR_2 | 43 | 55 | 4 | 5 | 0 | 0 | |
| | | | | | | | |
| Product Type | IOHHMOOR | MVIOEPFDNCDF | MVIOEPNCDF | MVIONCDF | RBSZOPOEPFDNCDF | RBSZOPOEPFDPLRMNCD | RBSZOPOEPNCDF |
| SIR_IOP_2_ | 17 | 28 | 29 | 7 | 29 | 15 | 27 |
| | | | | | | | |
| Product Type | RNELPOTONCDF | RPEPOPFDPLRMSINNCD | RPEPOPFDSINNCDF | RPEPOPSINNCDF | RSSBCONCDF | RSSHAOFDNCDF | RSSHAOFDPLRMNCDF |
| SIR_IOP_2_ | 4 | 16 | 29 | 23 | 19 | 29 | 17 |
| | | | | | | | |
| Product Type | RSSHAONCDF | RSWHOEPFDNCDF | RSWHOEPFDPLRMNCDF | RSWHOEPNCDF | SPHLPQWNCDF | - | • |
| SIR_IOP_2_ | 23 | 29 | 17 | 13 | 29 | | |
| | | | | | | | |
| Product Type | - | - | - | - | - | - | • |
| SIR IOP 2 | | | | | | | |

| 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 | RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2PLRMNetCDF | The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees | | | |
| RBSZOPOEPNCDF | RangeBackscatterSigmaZeroOPOceanExcludingPolarNetCDF | The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees | | | |
| RNELPOTONCDF | RangeNELPOceanTideOceanNetCDF | The Non-equilibrium long period ocean loading tide height should be between -40mm and 40mm (or missing) for surface type = ocean | | | |
| RPEPOPFDLRMNCDF | RangePeakinessExcludingPolarOPFD2LRMNetCDF | The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees | | | |
| RPEPOPFDPLRMSAR NCDF | RangePeakinessExcludingPolarOPFD2PLRMSARNetCDF | The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees | | | |
| RPEPOPFDPLRMSINN CDF | RangePeakinessExcludingPolarOPFD2PLRMSINNetCDF | The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees | | | |
| RPEPOPFDSARNCDF | RangePeakinessExcludingPolarOPFD2SARNetCDF | The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees | | | |
| RPEPOPFDSINNCDF | RangePeakinessExcludingPolarOPFD2SINNetCDF | The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees | | | |
| RPEPOPLRMNCDF | RangePeakinessExcludingPolarOPLRMNetCDF | The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees | | | |
| RPEPOPSARNCDF | RangePeakinessExcludingPolarOPSARNetCDF | The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees | | | |
| RPEPOPSINNCDF | RangePeakinessExcludingPolarOPSINNetCDF | The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees | | | |
| RSSBCONCDF | RangeSeaStateBiasCorrectionOceanNetCDF | The sea state bias correction should be between -500mm and 0mm (or missing) for surface type = ocean | | | |
| RSSHAOFDNCDF | RangeSeaSurfaceHeightAnomalyOceanFD3NetCDF | The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean | | | |
| RSSHAOFDPLRMNCD F | RangeSeaSurfaceHeightAnomalyOceanFD3PLRMNetCDF | The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean | | | |
| RSSHAONCDF | RangeSeaSurfaceHeightAnomalyOceanNetCDF | The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean | | | |
| RSWHOEPFDNCDF | RangeSignificantWaveHeightOceanExcludingPolarFD2NetCDF | The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees | | | |
| 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 | | | |
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7.3 Missing QCC Reports

Number of products with missing QCC reports:

0