

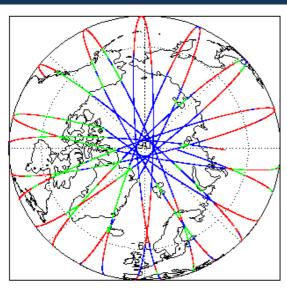
1. Overview

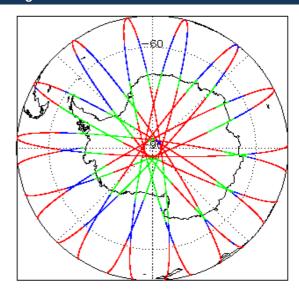
| Report Production: | 21-Nov-2022 | |
|--------------------|---|--|
| Processor Used: | CryoSat Ocean Processor | |
| Data Used: | Intermediate Ocean Products (IOP) L1B, L2 & P2P Science Data | |

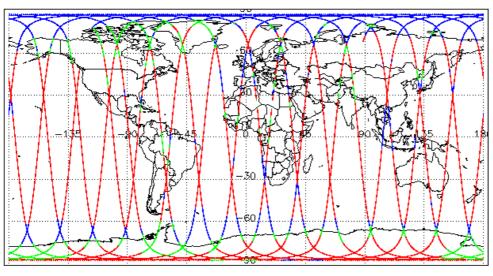
| Check | L1 & L2 | P2P |
|--|------------------------------|-----------------|
| Server check: science-pds.cryosat.esa.int | Nominal | Nominal |
| Server check: calval-pds.cryosat.esa.int | Nominal | Nominal |
| Product Software Check | Nominal | Nominal |
| Product Format Check | Nominal | Nominal |
| Product Header Analysis | Nominal | Nominal |
| Auxiliary Data File Usage Check | Nominal | Nominal |
| Auxiliary Correction Error Check | See Section 5.4 | See Section 6.4 |
| Measurement Confidence Data Check | See Section 4.5, 4.6 and 5.5 | See Section 6.5 |
| Range, SWH & Backscatter Measurement Check | See Section 5.6 | See Section 6.6 |
| Ocean Retracking Quality Check | See Section 5.7 | See Section 6.7 |
| QCC Error/ Warning Check | See Section 7.2 | See Section 7.2 |

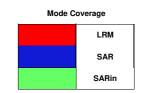
| I | Mission / Instru | ment News |
|---|------------------|-----------------|
| | 17-Nov-2022 | None |
| | 18-Nov-2022 | None |
| | 19-Nov-2022 | Nothing planned |

2. Global Coverage









3. Instrument Configuration

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

SIRAL instrument(s) in use: SIRAL - A

4. IOP Level 1B Data Quality Check

4.1 L1B Product Format Check

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

4.2 L1B Product Header Analysis

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

Number of products with errors:

0

4.3 L1B Auxilary Data File Usage Check

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

Number of products with errors:

0

4.4 L1B Auxiliary Correction Error Check

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

Number of products with errors:

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19

4.5 L1B Measurement Confidence Data Check

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

> Attitude Correction Missing: This flag is currently set in error for IOPR products due to a configuration issue. The attitude correction is actually not missing. This will be resolved in the next SW undate.

Number of products with errors:

| Product | Test Failed | Description |
|---|---------------------|--|
| CS_OFFL_SIR_IOPM1B_20221118T010149_20221118T012533_C001 | Power scaling error | There is an error in the scaling of the L1B waveform for one or more records |
| CS_OFFL_SIR_IOPM1B_20221118T222628_20221118T223336_C001 | Power scaling error | There is an error in the scaling of the L1B waveform for one or more records |

4.6 L1B Waveform Group Data Check

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

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

Number of products with errors:

| Product | Test Failed | Description |
|---|--------------|--|
| CS_OFFL_SIR_IOPM1B_20221118T082327_20221118T084535_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPM1B_20221118T205052_20221118T210025_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20221118T021347_20221118T021829_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20221118T031649_20221118T031801_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20221118T081647_20221118T081814_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20221118T094216_20221118T094831_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20221118T122118_20221118T122603_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20221118T184912_20221118T184958_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20221118T185037_20221118T185322_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPN1B_20221118T221051_20221118T221302_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20221118T044242_20221118T044656_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20221118T103744_20221118T103749_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20221118T130139_20221118T130418_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20221118T143940_20221118T144359_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20221118T163326_20221118T163857_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20221118T164740_20221118T164853_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20221118T171327_20221118T171447_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20221118T171459_20221118T172440_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_IOPR1B_20221118T195031_20221118T195702_C001 | Loss of Echo | The tracking echo is missing for one or more records |

5. IOP Level 2 Data Quality Check

5.1 L2 Product Format Check

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

Number of products with errors:

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5.2 L2 Product Header Analysis

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

Number of products with errors:

0

5.3 L2 Auxiliary Data File Usage Check

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

Number of products with errors:

5.4 L2 Auxiliary Correction Error Check

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

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

- > ECMWF Meteo Corrections: Currently the following corrections are not computed over CONTINENTAL ICE: Dry Tropospheric Correction, Wet Tropospheric Correction, Inverse Barometric Correction and the U-Wind and V-Wind components of the ECMWF model wind vector. This is a known anomaly (CRYO-COP-3) and will be resolved in a future IPF update. The affected products are not reported in the table below.
- > Sea State Bias & Sea State Bias PLRM: The error value is currently set for products over sea ice, but this is to be expected.
- > Mean Sea Surface: The error value is currently set for products over land and sea ice, but this is to be expected.

Number of products with errors:

| Product | Test Failed | Description |
|---|---|--|
| CS_OFFL_SIR_IOPM_2_20221118T052437_20221118T053618_C001 | Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non- Equilibrium Long Period Ocean Tide | There is an error with the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT and 2: FES) and the Non-Equilibrium Long Period Ocean Tide for one or more records |
| CS_OFFL_SIR_IOPM_2_20221118T152002_20221118T152136_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height (solution 1) for one or more records |
| CS_OFFL_SIR_IOPM_2_20221118T215059_20221118T220420_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height (solution 1) for one or more records |
| CS_OFFL_SIR_IOPN_2_20221118T003759_20221118T004135_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height (solution 1) for one or more records |
| CS_OFFL_SIR_IOPN_2_20221118T021347_20221118T021829_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_20221118T045338_20221118T045642_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_20221118T062647_20221118T062955_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_20221118T063240_20221118T063624_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_20221118T080718_20221118T080953_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_20221118T090228_20221118T090346_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_20221118T094216_20221118T094831_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_20221118T104202_20221118T104412_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_20221118T104508_20221118T104736_C001 | Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non Equilibrium Long Period Ocean Tide | There is an error with the Total Geocentric Ocean Tide height (solution 1: -GOT and 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records |
| CS_OFFL_SIR_IOPN_2_20221118T112441_20221118T112618_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height (solution 1) for one or more records |
| CS_OFFL_SIR_IOPN_2_20221118T122118_20221118T122603_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_20221118T131259_20221118T131532_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_20221118T144359_20221118T144750_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_20221118T154500_20221118T154622_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_20221118T162343_20221118T162657_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_20221118T163211_20221118T163325_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height (solution 1) for one or more records |
| CS_OFFL_SIR_IOPN_2_20221118T181116_20221118T181233_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_20221118T185037_20221118T185322_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_20221118T194844_20221118T195031_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height (solution 1) for one or more records |
| CS_OFFL_SIR_IOPN_2_20221118T203257_20221118T203359_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_20221118T212656_20221118T212923_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_20221118T220723_20221118T221030_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_20221118T221051_20221118T221302_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_20221118T230601_20221118T231009_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_20221118T234734_20221118T235125_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_20221118T235635_20221118T235709_C001 | Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT) | There is an error with the Mean Dynamic Topography (solution 1) and the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records |

| CS_OFFL_SIR_IOPR_2_20221118T004650_20221118T005048_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height (solution 1) for one or more records |
|---|--|--|
| CS_OFFL_SIR_IOPR_2_20221118T021829_20221118T022610_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_20221118T035757_20221118T040432_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_20221118T040432_20221118T040715_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_20221118T053633_20221118T054332_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_20221118T054332_20221118T054525_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_20221118T071750_20221118T072229_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_20221118T072229_20221118T072346_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_20221118T085552_20221118T090108_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_20221118T090108_20221118T090228_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_20221118T103749_20221118T104202_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_20221118T121318_20221118T121341_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height (solution 1) for one or more records |
| CS_OFFL_SIR_IOPR_2_20221118T121341_20221118T122118_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_20221118T135156_20221118T140153_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_20221118T152421_20221118T152601_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height (solution 1) for one or more records |
| CS_OFFL_SIR_IOPR_2_20221118T153521_20221118T154309_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_20221118T171459_20221118T172440_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_20221118T185452_20221118T190219_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_20221118T203359_20221118T203926_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_20221118T204017_20221118T204106_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height (solution 1) for one or more records |
| CS_OFFL_SIR_IOPR_2_20221118T212923_20221118T213157_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_20221118T221302_20221118T221955_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_20221118T235125_20221118T235634_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |

5.5 L2 Measurement Confidence Data Check

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

Number of products with errors:

| Product | Test Failed | Description |
|---|---------------------|--|
| CS_OFFL_SIR_IOPM_2_20221118T010149_20221118T012533_C001 | Power scaling error | There is an error in the scaling of the L1B waveform for one or more records |
| CS_OFFL_SIR_IOPM_2_20221118T222628_20221118T223336_C001 | Power scaling error | There is an error in the scaling of the L1B waveform for one or more records |

5.6 L2 Measurement Quality Flag Check

L2 Quality Flags (20 Hz)

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

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

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

89

Number of products with errors:

| Product | Test Failed | Description |
|---|--|---|
| CS_OFFL_SIR_IOPM_2_20221118T000209_20221118T002951_C001 | | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221118T010149_20221118T012533_C001 | | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221118T012845_20221118T013409_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_20221118T014147_20221118T021346_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_20221118T023738_20221118T025746_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_20221118T030037_20221118T030446_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_20221118T030847_20221118T031649_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_20221118T032218_20221118T035402_C001 | | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221118T040715_20221118T040824_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_20221118T042905_20221118T043315_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_20221118T043613_20221118T044242_C001 | | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records |
| CS_OFFL_SIR_IOPM_2_20221118T044822_20221118T045338_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_20221118T050034_20221118T052151_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_20221118T052437_20221118T053618_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_20221118T054525_20221118T055016_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_20221118T060443_20221118T061043_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_20221118T061231_20221118T062246_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_20221118T062955_20221118T063239_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_20221118T063957_20221118T070557_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_20221118T070639_20221118T070921_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_20221118T071004_20221118T071327_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_20221118T072847_20221118T073542_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_20221118T073600_20221118T080016_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_20221118T080953_20221118T081147_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records |
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| CS_OFFL_SIR_IOPM_2_20221118T081909_20221118T082237_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_20221118T082327_20221118T084535_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_20221118T090346_20221118T090737_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_20221118T090905_20221118T092453_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_20221118T092904_20221118T093006_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_20221118T093112_20221118T093639_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_20221118T093753_20221118T094216_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_20221118T094831_20221118T095106_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_20221118T095127_20221118T095554_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_20221118T095825_20221118T101241_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_20221118T105943_20221118T112246_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_20221118T112618_20221118T113508_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_20221118T113813_20221118T120121_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_20221118T123834_20221118T130138_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_20221118T130549_20221118T130726_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_20221118T130836_20221118T131259_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_20221118T131745_20221118T134148_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_20221118T134225_20221118T134231_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_20221118T140957_20221118T143940_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_20221118T144750_20221118T145339_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_20221118T145705_20221118T150157_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_20221118T150337_20221118T151215_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_20221118T152318_20221118T152345_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_20221118T154622_20221118T161953_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_20221118T162657_20221118T163211_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records |
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| CS_OFFL_SIR_IOPM_2_20221118T163858_20221118T164312_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_20221118T164325_20221118T164419_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_20221118T164853_20221118T165315_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_20221118T165947_20221118T170232_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_20221118T170929_20221118T171327_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_20221118T172440_20221118T173503_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_20221118T173749_20221118T175901_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_20221118T180526_20221118T180658_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_20221118T180705_20221118T181116_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_20221118T181617_20221118T183528_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_20221118T183624_20221118T184043_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_20221118T184522_20221118T184827_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_20221118T190602_20221118T191031_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_20221118T191211_20221118T193808_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_20221118T194031_20221118T194558_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_20221118T194617_20221118T194844_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_20221118T195702_20221118T200932_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_20221118T201014_20221118T202724_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_20221118T204440_20221118T204442_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_20221118T204500_20221118T204504_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_20221118T205052_20221118T210025_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_20221118T210229_20221118T211732_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_20221118T211959_20221118T212456_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_20221118T212535_20221118T212655_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_20221118T213357_20221118T214546_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_20221118T215059_20221118T220420_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records |
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| CS_OFFL_SIR_IOPM_2_20221118T224152_20221118T225612_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records |
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| CS_OFFL_SIR_IOPM_2_20221118T225925_20221118T230410_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_20221118T230450_20221118T230601_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_20221118T231141_20221118T233730_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_20221118T013742_20221118T013903_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_20221118T041539_20221118T041554_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_20221118T104202_20221118T104412_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_20221118T202724_20221118T202858_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_20221118T202926_20221118T203123_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_20221118T035523_20221118T035609_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_20221118T043316_20221118T043613_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_20221118T072724_20221118T072805_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_20221118T113707_20221118T113813_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_20221118T131532_20221118T131745_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records |
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L2 Quality Flags (20 Hz PLRM)

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

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

Number of products with errors:

| Product | Test Failed | Description |
|---|---|---|
| CS_OFFL_SIR_IOPN_2_20221118T003553_20221118T003715_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_20221118T003759_20221118T004135_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_20221118T005136_20221118T005259_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_20221118T013742_20221118T013903_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_20221118T021347_20221118T021829_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_20221118T031649_20221118T031801_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_20221118T035402_20221118T035523_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_20221118T035620_20221118T035757_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_20221118T041006_20221118T041129_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_20221118T042803_20221118T042905_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for more records |
|---|---|--|
| CS_OFFL_SIR_IOPN_2_20221118T060235_20221118T060443_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for more records |
| CS_OFFL_SIR_IOPN_2_20221118T071732_20221118T071750_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 F and the OCOG Altimeter Range and Backscatter Quality Flags have set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221118T081148_20221118T081400_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for more records |
| CS_OFFL_SIR_IOPN_2_20221118T090737_20221118T090905_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for more records |
| CS_OFFL_SIR_IOPN_2_20221118T092706_20221118T092731_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for more records |
| CS_OFFL_SIR_IOPN_2_20221118T094216_20221118T094831_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 I and the OCOG Altimeter Range and Backscatter Quality Flags have set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221118T095106_20221118T095127_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for more records |
| CS_OFFL_SIR_IOPN_2_20221118T095555_20221118T095735_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 I and the OCOG Altimeter Range and Backscatter Quality Flags have set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221118T104202_20221118T104412_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 Fand the OCOG Altimeter Range and Backscatter Quality Flags have set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221118T104508_20221118T104736_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 I and the OCOG Altimeter Range and Backscatter Quality Flags have set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221118T104948_20221118T105110_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for more records |
| CS_OFFL_SIR_IOPN_2_20221118T120121_20221118T120128_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for more records |
| CS_OFFL_SIR_IOPN_2_20221118T120200_20221118T120447_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for more records |
| CS_OFFL_SIR_IOPN_2_20221118T122118_20221118T122603_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 I and the OCOG Altimeter Range and Backscatter Quality Flags have set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221118T122658_20221118T122819_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for more records |
| CS_OFFL_SIR_IOPN_2_20221118T131259_20221118T131532_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 I and the OCOG Altimeter Range and Backscatter Quality Flags have set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221118T162343_20221118T162657_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for more records |
| CS_OFFL_SIR_IOPN_2_20221118T163211_20221118T163325_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 I and the OCOG Altimeter Range and Backscatter Quality Flags have set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221118T165316_20221118T165359_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for more records |
| CS_OFFL_SIR_IOPN_2_20221118T171447_20221118T171458_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 land the OCOG Altimeter Range and Backscatter Quality Flags have set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221118T185037_20221118T185322_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 I and the OCOG Altimeter Range and Backscatter Quality Flags have set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221118T193910_20221118T194031_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 Fand the OCOG Altimeter Range and Backscatter Quality Flags have set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221118T202724_20221118T202858_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 I and the OCOG Altimeter Range and Backscatter Quality Flags have set for one or more records |
| CS_OFFL_SIR_IOPN_2_20221118T203926_20221118T204016_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for more records |
| CS_OFFL_SIR_IOPN_2_20221118T204719_20221118T204855_C001 | OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality | The OCOG Range and Backscatter Quality Flags have been set for more records |

| CS_OFFL_SIR_IOPN_2_20221118T214948_20221118T215059_C001 CS_OFFL_SIR_IOPN_2_20221118T226707_20221118T221030_C001 CS_OFFL_SIR_IOPN_2_20221118T225707_20221118T225925_C001 CS_OFFL_SIR_IOPN_2_20221118T225707_20221118T225925_C001 CS_OFFL_SIR_IOPN_2_20221118T2350601_20221118T231009_C001 CS_OFFL_SIR_IOPN_2_20221118T236601_20221118T231009_C001 CS_OFFL_SIR_IOPN_2_20221118T234513_20221118T234537_C001 CS_OFFL_SIR_IOPN_2_20221118T234513_20221118T235125_C001 CS_OFFL_SIR_IOPN_2_20221118T234513_20221118T235125_C001 CS_OFFL_SIR_IOPN_2_20221118T234513_20221118T235125_C001 CS_OFFL_SIR_IOPN_2_20221118T034513_20221118T036048_C001 CS_OFFL_SIR_IOPN_2_20221118T034533_20221118T036048_C001 CS_OFFL_SIR_IOPN_2_20221118T03605048_C001 CS_OFFL_SIR_IOPN_2_20221118T03605048_C001 CS_OFFL_SIR_IOPN_2_20221118T03605048_C001 CS_OFFL_SIR_IOPR_2_20221118T03605048_C001 CS_OFFL_SIR_IOPR_2_20221118T |
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| CS_OFFL_SIR_IOPN_2_20221118T225707_20221118T225925_C001 CS_OFFL_SIR_IOPN_2_20221118T225707_20221118T225925_C001 CS_OFFL_SIR_IOPN_2_20221118T230601_20221118T231009_C001 CS_OFFL_SIR_IOPN_2_20221118T234513_20221118T234637_C001 CS_OFFL_SIR_IOPN_2_20221118T234513_20221118T234637_C001 CS_OFFL_SIR_IOPN_2_20221118T234513_20221118T234525_C001 CS_OFFL_SIR_IOPN_2_20221118T234734_20221118T235125_C001 CS_OFFL_SIR_IOPN_2_20221118T004650_20221118T005048_C001 CS_OFFL_SIR_IOPR_2_20221118T004650_20221118T014146_C001 CS_OFFL_SIR_IOPR_2_20221118T013903_20221118T014146_C001 CS_OFFL_SIR_IOPR_2_20221118T013903_20221118T014146_C001 CS_OFFL_SIR_IOPR_2_20221118T013903_20221118T014146_C001 CS_OFFL_SIR_IOPR_2_20221118T02610_C001 CS_OFFL_SIR_IOPR_2_20221118T02646_20221118T022610_C001 CS_OFFL_SIR_IOPR_2_20221118T02646_20221118T022610_C001 CS_OFFL_SIR_IOPR_2_20221118T02646_20221118T022817_C001 CS_OFFL_SIR_IOPR_2_20221118T02646_20221118T022817_C001 CS_OFFL_SIR_IOPR_2_20221118T02646_20221118T022817_C001 CS_OFFL_SIR_IOPR_2_20221118T02646_20221118T022817_C001 CS_OFFL_SIR_IOPR_2_20221118T02646_20221118T022817_C001 CS_OFFL_SIR_IOPR_2_20221118T02646_20221118T022817_C001 CS_OFFL_SIR_IOPR_2_20221118T02646_20221118T022817_C001 CS_OFFL_SIR_IOPR_2_20221118T02646_20221118T022817_C001 |
| CS_OFFL_SIR_IOPN_2_20221118T231009_C001 CS_OFFL_SIR_IOPN_2_20221118T234513_20221118T231009_C001 CS_OFFL_SIR_IOPN_2_20221118T234513_20221118T234637_C001 CS_OFFL_SIR_IOPN_2_20221118T234513_20221118T234637_C001 CS_OFFL_SIR_IOPN_2_20221118T234734_20221118T235125_C001 CS_OFFL_SIR_IOPN_2_20221118T034734_20221118T035125_C001 CS_OFFL_SIR_IOPN_2_20221118T034734_20221118T035125_C001 CS_OFFL_SIR_IOPN_2_20221118T034734_20221118T035125_C001 CS_OFFL_SIR_IOPN_2_20221118T034734_20221118T035125_C001 CS_OFFL_SIR_IOPR_2_20221118T03903_20221118T014146_C001 CS_OFFL_SIR_IOPR_2_20221118T013903_20221118T014146_C001 CS_OFFL_SIR_IOPR_2_20221118T013903_20221118T014146_C001 CS_OFFL_SIR_IOPR_2_20221118T021829_20221118T022610_C001 CS_OFFL_SIR_IOPR_2_20221118T022646_20221118T022817_C001 CS_OFFL_SIR_IOPR_2_20221118T022817_C001 CS_OFFL_SIR_IOPR_2_20221118T022817_C001 CS_OFFL_SIR_IOPR_2_20221118T022817_C001 CS_OFFL_SIR_IOPR_2_20221118T022817_C001 CS_OFFL_SIR_IOPR_2 |
| CS_OFFL_SIR_IOPN_2_20221118T234513_20221118T234637_C001 CS_OFFL_SIR_IOPN_2_20221118T234513_20221118T234637_C001 CS_OFFL_SIR_IOPN_2_20221118T234513_20221118T235125_C001 CS_OFFL_SIR_IOPN_2_20221118T004650_20221118T005048_C001 CS_OFFL_SIR_IOPR_2_20221118T013903_20221118T014146_C001 CS_OFFL_SIR_IOPR_2_20221118T013903_20221118T014146_C001 CS_OFFL_SIR_IOPR_2_20221118T021829_20221118T022610_C001 CS_OFFL_SIR_IOPR_2_20221118T022646_20221118T022817_C001 CS_OFFL_SIR_IOPR_2_20221118T022646_20221118T022817_C001 CS_OFFL_SIR_IOPR_2_20221118T022646_20221118T022817_C001 CS_OFFL_SIR_IOPR_2_20221118T022646_20221118T022817_C001 CCGA Altimeter Range Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records The Ocean Altimeter Range and Backscatter Quality Flags have been set for one or more records The Ocean Altimeter Range and Backscatter Quality Flags have been set for one or more records The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records The Ocean Altimeter Range and Bac |
| OCOG Backscatter Quality OCean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM CS_OFFL_SIR_IOPR_2_20221118T022646_20221118T022817_C001 OCEAN Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM, OCOG Altimeter Rang |
| and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flags have be set for one or more records CS_OFFL_SIR_IOPR_2_20221118T004650_20221118T005048_C001 CS_OFFL_SIR_IOPR_2_20221118T013903_20221118T014146_C001 CS_OFFL_SIR_IOPR_2_20221118T021829_20221118T022610_C001 CS_OFFL_SIR_IOPR_2_20221118T022646_20221118T022817_C001 and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have be set for one or more records The Ocean Altimeter Range and Backscatter Quality Flags have be set for one or more records The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have be set for one or more records The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have be set for one or more records The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have be set for one or more records CS_OFFL_SIR_IOPR_2_20221118T021829_20221118T022610_C001 CS_OFFL_SIR_IOPR_2_20221118T022646_20221118T022817_C001 Altimeter Range, SSHA, SWH and Backscatter Quality Flags have be set for one or more records CS_OFFL_SIR_IOPR_2_20221118T022646_20221118T022817_C001 Altimeter Range, SSHA, SWH and Backscatter Quality Flags have be set for one or more records CS_OFFL_SIR_IOPR_2_20221118T022646_20221118T022817_C001 Altimeter Range, SSHA, SWH and Backscatter Quality Flags have be set for one or more records CS_OFFL_SIR_IOPR_2_20221118T022646_20221118T022817_C001 Altimeter Range, SSHA, SWH and Backscatter Quality Flags have be set for one or more records The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have be set for one or more records The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have be set for one or more records The Ocean Altimeter Range and Backscatter Quality Flags have be set for one or more records The Ocean Altimeter Range and Backscatter Quality Flags have be set for one or more records The Ocean Altimeter Range and Backscatter Quality Flags have be set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221118T004650_20221118T005048_C001 and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flags have be set for one or more records CS_OFFL_SIR_IOPR_2_20221118T013903_20221118T014146_C001 CS_OFFL_SIR_IOPR_2_20221118T021829_20221118T022610_C001 CS_OFFL_SIR_IOPR_2_20221118T022646_20221118T022817_C001 CS_OFFL_SIR_IOPR_2_20221118T022646_20221118T022817_C001 and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have be set for one or more records CS_OFFL_SIR_IOPR_2_20221118T021829_20221118T022610_C001 CS_OFFL_SIR_IOPR_2_20221118T022646_20221118T022817_C001 CS_OFFL_SIR_IOPR_2_20221118T0226 |
| and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flags have be set for one or more records CS_OFFL_SIR_IOPR_2_20221118T021829_20221118T022610_C001 CS_OFFL_SIR_IOPR_2_20221118T022646_20221118T022817_C001 And Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have be set for one or more records CS_OFFL_SIR_IOPR_2_20221118T022646_20221118T022817_C001 The Ocean Altimeter Range and Backscatter Quality Flags have be set for one or more records The Ocean Altimeter Range and Backscatter Quality Flags have be set for one or more records The Ocean Altimeter Range and Backscatter Quality Flags have be set for one or more records The Ocean Altimeter Range and Backscatter Quality Flags have be set for one or more records The Ocean Altimeter Range and Backscatter Quality Flags have be set for one or more records The Ocean Altimeter Range and Backscatter Quality Flags have be set for one or more records The Ocean Altimeter Range and Backscatter Quality Flags have be set for one or more records The Ocean Altimeter Range and Backscatter Quality Flags have be set for one or more records. |
| and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have be set for one or more records CS_OFFL_SIR_IOPR_2_20221118T022646_20221118T022817_C001 and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have be set for one or more records Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags have be and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have be an |
| and Backscatter Quality PLRM, OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have be and Back |
| |
| CS_OFFL_SIR_IOPR_2_20221118T022914_20221118T023047_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality PLRM, or records |
| Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flam dad Backscat |
| CS_OFFL_SIR_IOPR_2_20221118T031801_20221118T032218_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flam Ad Backscatter Quality Flam Additionater Range and Backscatter Quality Flam Additionater Range and Backscatter Quality Flam Additionater Range and Backscatter Quality Flam Set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221118T040927_20221118T041006_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality PLRM, or records The OCOG Range and Backscatter Quality Flags have been set for on more records |
| CS_OFFL_SIR_IOPR_2_20221118T044242_20221118T044656_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 have be set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221118T045642_20221118T050034_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 have by altimeter Range and Backscatter Quality Flags have by Set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221118T053633_20221118T054332_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 have by Set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221118T062246_20221118T062647_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 have be altimeter Range and Backscatter Quality Flags have be set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221118T071615_20221118T071732_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flam Additionater Range and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flags have be set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221118T072229_20221118T072346_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flam Altimeter Range and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality Flam Altimeter Range and Backscatter Quality Flam Set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221118T080016_20221118T080718_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 have be set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221118T085552_20221118T090108_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 have be set for one or more records |
| CS_OFFL_SIR_IOPR_2_20221118T092453_20221118T092706_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality PLRM, ocog Backscatter Quality The OCOG Range and Backscatter Quality Flags have been set for one more records |
| CS_OFFL_SIR_IOPR_2_20221118T101241_20221118T101420_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality The OCOG Range and Backscatter Quality Flags have been set for on more records |
| CS_OFFL_SIR_IOPR_2_20221118T103554_20221118T103714_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality The OCOG Range and Backscatter Quality Flags have been set for one more records |

| CS_OFFL_SIR_IOPR_2_20221118T103749_20221118T104202_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_20221118T121318_20221118T121341_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_20221118T121341_20221118T122118_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_20221118T130139_20221118T130418_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_20221118T135156_20221118T140153_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_20221118T143940_20221118T144359_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_20221118T153105_20221118T153145_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_20221118T153521_20221118T154309_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_20221118T161953_20221118T162343_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_20221118T164740_20221118T164853_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_20221118T171327_20221118T171447_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_20221118T171459_20221118T172440_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_20221118T181234_20221118T181617_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_20221118T185002_20221118T185037_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_20221118T185452_20221118T190219_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 Flag and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records | | |
| CS_OFFL_SIR_IOPR_2_20221118T195031_20221118T195702_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_20221118T210025_20221118T210228_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_20221118T211732_20221118T211817_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_20221118T212923_20221118T213157_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_20221118T221031_20221118T221051_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_20221118T221302_20221118T221955_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_20221118T222417_20221118T222449_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_20221118T223337_20221118T224045_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_20221118T235125_20221118T235634_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_20221118T235709_20221118T235841_C001 | Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records | | |
| L2 Quality Flags (1 Hz & 1 Hz PLRM) | | | | |

L2 Quality Flags (1 Hz & 1 Hz PLRM)

 $\label{lem:currently} \textbf{Currently, there are several common flags raised in the Level 2 products, which are summarised below.}$

5.8 L2 Ocean Retracking Quality Check

L2 Retracking Flags (20 Hz)

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

> Ocean Retracking Quality Flag: This flag is currently set for products over land and sea ice, but this is to be expected. The number of products with this error flag set is given below.

Number of products with errors:

66

L2 Retracking Flags (20 Hz PLRM)

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

> Ocean Retracking Quality Flag (PLRM): This flag is currently set for products IOPR and IOPN products over sea ice, but this is to be expected. The number of products with this error flag set is given below.

Number of products with errors:

146

6. IOP L2 Pole-to-Pole Data Quality Check

6.1 P2P Product Format Check

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

Number of products with errors:

0

6.2 P2P Product Header Analysis

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

Number of products with errors:

Ο

6.3 P2P Auxiliary Data File Usage Check

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

Number of products with errors:

٥

6.4 P2P Auxiliary Correction Error Check

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

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

- > ECMWF Meteo Corrections: Currently the following corrections are not computed over CONTINENTAL ICE: Dry Tropospheric Correction, Wet Tropospheric Correction, Inverse Barometric Correction and the U-Wind and V-Wind components of the ECMWF model wind vector. This is a known anomaly (CRYO-COP-3) and will be resolved in a future IPF update. The affected products are not reported in the table below.
- > Sea State Bias & Sea State Bias PLRM: The error value is currently set for products over sea ice, but this is to be expected.
- > Mean Sea Surface: The error value is currently set for products over land and sea ice, but this is to be expected.
- > Mean Dynamic Topography: The error value is currently set for products over land and sea ice, but this is to be expected.
- > Altimetric Wind Speed Error: The error value is currently set for products over land and sea ice, but this is to be expected.

Number of products with errors:

| Product | Test Failed | Description |
|--|---|---|
| CS_OFFL_SIR_IOP_2_20221117T235503_20221118T004440_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOP_2_20221118T004440_20221118T013417_C001 | Mean Dynamic Topography (1) | There is an error with the Mean Dynamic Topography height for one or more records |
| CS_OFFL_SIR_IOP_2_20221118T013417_20221118T022354_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_220221118T022354_20221118T031332_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_220221118T031332_20221118T040309_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2_20221118T040309_20221118T045247_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2_20221118T045247_20221118T054224_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records |
| CS_OFFL_SIR_IOP_2_20221118T054224_20221118T063201_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2_20221118T063201_20221118T072138_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_220221118T072138_20221118T081116_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2_20221118T081116_20221118T090053_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2_20221118T090053_20221118T095030_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT) | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records |
| CS_OFFL_SIR_IOP_2_20221118T095030_20221118T104008_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |

| CS_OFFL_SIR_IOP_2_20221118T104008_20221118T112945_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_220221118T112945_20221118T121922_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2_20221118T121922_20221118T130900_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records |
| CS_OFFL_SIR_IOP_2_20221118T130900_20221118T135837_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2_20221118T135837_20221118T144815_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), and tidal corrections for one or more records |
| CS_OFFL_SIR_IOP_2_20221118T144815_20221118T153752_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2_20221118T153752_20221118T162729_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT) | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records |
| CS_OFFL_SIR_IOP_2_20221118T162729_20221118T171706_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2_20221118T171706_20221118T180644_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2_20221118T180644_20221118T185621_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT) | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records |
| CS_OFFL_SIR_IOP_2_20221118T185621_20221118T194558_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2_20221118T194558_20221118T203536_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2_20221118T203536_20221118T212513_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2_20221118T212513_20221118T221450_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT) | There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records |
| CS_OFFL_SIR_IOP_2_20221118T221450_20221118T230428_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2_20221118T230428_20221118T235405_C001 | Mean Sea Surface (1), Mean Dynamic Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) |
| CS_OFFL_SIR_IOP_2_20221118T235405_20221119T004343_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 |

6.5 P2P Measurement Confidence Data Check

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

Number of products with errors:

| Product | Test Failed | Description |
|--|---------------------|--|
| CS_OFFL_SIR_IOP_2_20221118T004440_20221118T013417_C001 | Power scaling error | There is an error in the scaling of the L1B waveform for one or more records |
| CS_OFFL_SIR_IOP_220221118T221450_20221118T230428_C001 | Power scaling error | There is an error in the scaling of the L1B waveform for one or more records |

6.6 P2P Measurement Quality Flag Check

P2P Quality Flags (20 Hz)

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

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

Number of products with errors: 29

P2P Quality Flags (20 Hz PLRM)

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

Number of products with errors: 30

P2P Quality Flags (1 Hz & 1 Hz PLRM)

Since the P2P Quality Flags are copied directly from the L2 Quality Flags, please see Section 5.6 for the number of L2 products affected. The number of P2P products affected is given below.

Number of products with errors: 30

6.8 P2P Ocean Retracking Quality Check

P2P Retracking Flags (20 Hz)

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

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

lumber 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.

Number of products with errors:

30

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 | 208 | 208 | 2 | 206 | 0 |
| SIR_IOPR1B | 119 | 104 | 1 | 103 | 0 |
| SIR_IOPN1B | 104 | 119 | 0 | 119 | 0 |
| SIR_IOPM_2 | 208 | 208 | 155 | 53 | 0 |
| SIR_IOPR_2 | 119 | 104 | 40 | 64 | 0 |
| SIR_IOPN_2 | 104 | 119 | 38 | 81 | 0 |
| SIR_IOP_P2P | 29 | 29 | 0 | 29 | 0 |

7.1 QCC Errors

Number of QCC reports with errors:

0

7.2 QCC Warnings

Number of QCC reports with warnings

| Total number of | occurrences of | each | warning |
|-----------------|----------------|------|---------|
|-----------------|----------------|------|---------|

| Total number of obsultances of cash warning | | | | | | | |
|---|----------|--------------|------------|----------|-----------------|--------------------|---------------|
| Product Type | BCSHNCDF | MVIOEPFDNCDF | MVIOEPNCDF | MVIONCDF | RBSZOPOEPFDNCDF | RBSZOPOEPFDPLRMNCI | RBSZOPOEPNCDF |
| SIR_IOPM1B | 206 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIR_IOPM_2 | 0 | 38 | 42 | 1 | 46 | 0 | 36 |
| SIR_IOPN1B | 100 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIR_IOPN_2 | 0 | 11 | 33 | 10 | 21 | 22 | 16 |
| SIR_IOPR1B | 116 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIR IOPR 2 | 0 | 41 | 45 | 0 | 42 | 30 | 17 |

| | Product Type | RDTCONCDF | RNELPOTONCDF | RPEPOPFDLRMNCDF | RPEPOPFDPLRMSARNCI | RPEPOPFDPLRMSINNCD | RPEPOPFDSARNCDF | RPEPOPFDSINNCDF |
|---|--------------|-----------|--------------|-----------------|--------------------|--------------------|-----------------|-----------------|
| Ī | SIR_IOPM1B | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | SIR_IOPM_2 | 0 | 0 | 36 | 0 | 0 | 0 | 0 |
| | SIR_IOPN1B | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | SIR_IOPN_2 | 1 | 2 | 0 | 0 | 26 | 0 | 34 |
| | SIR_IOPR1B | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ı | SIR IOPR 2 | 0 | 3 | 0 | 49 | 0 | 56 | 0 |

| Product Type | RPEPOPLRMNCDF | RPEPOPSARNCDF | RPEPOPSINNCDF | RSSBCONCDF | RSSHAOFDNCDF | RSSHAOFDPLRMNCDF | RSSHAONCDF |
|--------------|---------------|---------------|---------------|------------|--------------|------------------|------------|
| SIR_IOPM1B | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIR_IOPM_2 | 27 | 0 | 0 | 4 | 26 | 0 | 3 |
| SIR_IOPN1B | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIR_IOPN_2 | 0 | 0 | 30 | 16 | 45 | 56 | 31 |
| SIR_IOPR1B | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SIR_IOPR_2 | 0 | 47 | 0 | 4 | 68 | 36 | 10 |

| F | Product Type | RSWHOEPFDNCDF | RSWHOEPFDPLRMNCDF | RSWHOEPNCDF | SOOHHIFHD | SCSTODHRNCDF | SCSTODNCDF | • |
|---|--------------|---------------|-------------------|-------------|-----------|--------------|------------|---|
| : | SIR_IOPM1B | 0 | 0 | 0 | 0 | 0 | 0 | |
| | SIR_IOPM_2 | 28 | 0 | 2 | 0 | 0 | 0 | |
| | SIR_IOPN1B | 0 | 0 | 0 | 0 | 46 | 1 | |
| | SIR_IOPN_2 | 27 | 30 | 10 | 0 | 0 | 0 | |
| | SIR_IOPR1B | 0 | 0 | 0 | 0 | 119 | 10 | |
| | SIR IOPR 2 | 42 | 48 | 5 | 4 | 0 | 0 | |

| Product Type | IOHHMOOR | MVIOEPFDNCDF | MVIOEPNCDF | MVIONCDF | RBSZOPOEPFDNCDF | RBSZOPOEPFDPLRMNCD | RBSZOPOEPNCDF |
|--------------|----------|--------------|------------|----------|-----------------|--------------------|---------------|
| SIR IOP 2 | 16 | 29 | 29 | 10 | 29 | 16 | 29 |

| Product Type | RDTCONCDF | RNELPOTONCDF | RPEPOPFDPLRMSINNCDI | RPEPOPFDSINNCDF | RPEPOPSINNCDF | RSSBCONCDF | RSSHAOFDNCDF |
|--------------|-----------|--------------|---------------------|-----------------|---------------|------------|--------------|
| SIR_IOP_2_ | 1 | 5 | 17 | 28 | 24 | 18 | 29 |

| Product Type | RSSHAOFDPLRMNCDF | RSSHAONCDF | RSWHOEPFDNCDF | RSWHOEPFDPLRMNCDF | RSWHOEPNCDF | SPHLPQWNCDF | - |
|--------------|------------------|------------|---------------|-------------------|-------------|-------------|---|
| SIR_IOP_2_ | 20 | 23 | 29 | 18 | 13 | 29 | |
| | | | | | | | |
| | | | | | | | |
| Product Type | - | - | - | - | - | - | - |

| Test Description Key: | | | | | | | |
|---|--|--|--|--|--|--|--|
| Test name | Details | | | | | | |
| BurstCounterStep20HzNetCDF | The burst counter should be one higher with regard to the previous burst counter | | | | | | |
| MissingValueIntOceanExcludingPolarFD2NetCDF | The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees | | | | | | |
| MissingValueIntOceanExcludingPolarNetCDF | The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees | | | | | | |
| MissingValueIntOceanNetCDF | The value should not be a 'missing value' for surface type 0 only | | | | | | |
| RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2NetCDF | The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees | | | | | | |
| RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2PLRMNetCDF | The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees | | | | | | |
| RangeBackscatterSigmaZeroOPOceanExcludingPolarNetCDF | The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees | | | | | | |
| RangeDryTroposphericCorrectionOceanNetCDF | The Dry tropospheric correction should be between -2500mm and -1900mm (or missing) for surface type = ocean - NetCDF | | | | | | |
| RangeNELPOceanTideOceanNetCDF | The Non-equilibrium long period ocean loading tide height should be between -40mm and 40mm (or missing) fo surface type = ocean | | | | | | |
| RangePeakinessExcludingPolarOPFD2LRMNetCDF | The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees | | | | | | |
| RangePeakinessExcludingPolarOPFD2PLRMSARNetCDF | The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees | | | | | | |
| RangePeakinessExcludingPolarOPFD2PLRMSINNetCDF | The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees | | | | | | |
| RangePeakinessExcludingPolarOPFD2SARNetCDF | The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees | | | | | | |
| RangePeakinessExcludingPolarOPFD2SINNetCDF | The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees | | | | | | |
| RangePeakinessExcludingPolarOPLRMNetCDF | The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees | | | | | | |
| | BurstCounterStep20HzNetCDF MissingValueIntOceanExcludingPolarFD2NetCDF MissingValueIntOceanExcludingPolarNetCDF MissingValueIntOceanNetCDF RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2NetCDF RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2PLRMNetCDF RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2PLRMNetCDF RangeBackscatterSigmaZeroOPOceanExcludingPolarNetCDF RangeDryTroposphericCorrectionOceanNetCDF RangeNELPOceanTideOceanNetCDF RangePeakinessExcludingPolarOPFD2LRMNetCDF RangePeakinessExcludingPolarOPFD2PLRMSINNetCDF RangePeakinessExcludingPolarOPFD2PLRMSINNetCDF RangePeakinessExcludingPolarOPFD2SARNetCDF RangePeakinessExcludingPolarOPFD2SARNetCDF RangePeakinessExcludingPolarOPFD2SARNetCDF | | | | | | |

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

7.3 Missing QCC Reports

Number of products with missing QCC reports: