

# **QA4EO Daily Report for NOP data:**

<u>14/11/2021</u>

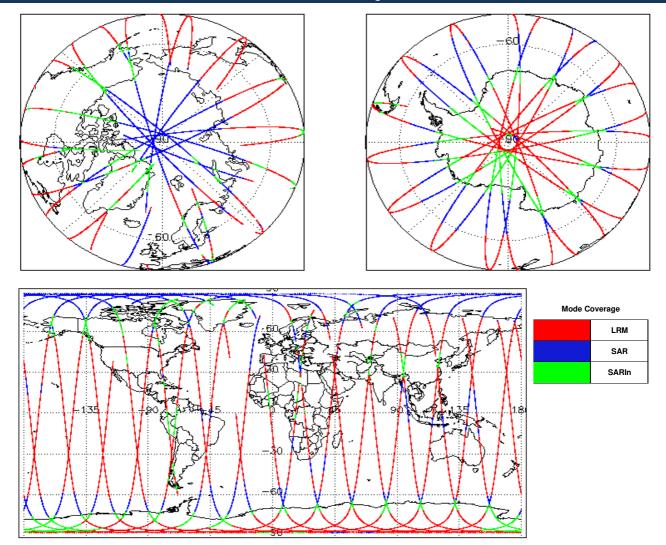
| eport Production:  | 15-Nov-2021                         | Check                                     | L1 & L2                      |
|--------------------|-------------------------------------|---|------------------------------|
| report Froduction. | 15-1100-2021                        | Server check: science-pds.cryosat.esa.int | Nominal                      |
| Processor Used:    | CriveSet Ocean Brasses              | Server check: calval-pds.cryosat.esa.int  | Nominal                      |
| Processor Used:    | CryoSat Ocean Processor             | Product Software Check                    | Nominal                      |
| Data Used:         | Near Real Time Ocean Products (NOP) | Product Format Check                      | Nominal                      |
| Data Useu:         | L1B & L2 Science Data               | Product Header Analysis                   | Nominal                      |
|                    |                                     | Auxiliary Data File Usage Check           | Nominal                      |
|                    |                                     | Auxiliary Correction Error Check          | See Section 5.4              |
|                    |                                     | Measurement Confidence Data Check         | See Section 4.5, 4.6 and 5.5 |
|                    |                                     | Measurement Quality Flag Check            | See Section 5.6              |
|                    |                                     | Ocean Retracking Quality Check            | See Section 5.7              |
|                    |                                     | QCC Error/ Warning Check                  | See Section 7.1 and 7.2      |

1. Overview

# Mission / Instrument News 13-Nov-2021 None 14-Nov-2021 None

15-Nov-2021 Nothing planned

# 2. Global Coverage



## 3. Instrument Configuration

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

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

# 4. NOP Level 1B Data Quality Check

## 4.1 L1B Product Format Check

Each product, retrieved and unpacked from the science server, is checked to ensure it consists of both an XML header file (.HDR) and a binary product file (.DBL). Number of products with errors: 0

### 4.2 L1B Product Header Analysis

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

L1B Processing Quality HR: The 11b\_proc\_flag\_hr flag is currently set all L1B IOPR and IOPN products because the 11b\_processing\_quality\_hr field is not correctly configured in the OSAR and OSARIn chains. A modification is required in the next release.

Number of products with errors:

#### 4.3 L1B Auxilary Data File Usage Check

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

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

Number of products with errors:

### 4.4 L1B Auxiliary Correction Error Check

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

Number of products with errors:

#### 4.5 L1B Measurement Confidence Data Check

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

> Attitude Correction Missing: This flag is currently set in error for NOPR products due to a configuration issue. This is being investigated and will be updated in the next SW update.

Number of products with errors:

| Product   | Test Failed         | Description   |
|---|---------------------|---|
| CS_OFFL_SIR_NOPM1B_20211114T025454_20211114T030910_C001 | Power scaling error | There is an error in the scaling of the L1B waveform for one or more<br>records |
| CS_OFFL_SIR_NOPM1B_20211114T142943_20211114T143044_C001 | Power scaling error | There is an error in the scaling of the L1B waveform for one or more<br>records |
| CS_OFFL_SIR_NOPM1B_20211114T222517_20211114T222550_C001 | Power scaling error | There is an error in the scaling of the L1B waveform for one or more<br>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.

17

3

#### Number of products with errors:

| Product   | Test Failed  | Description  |
|---|--------------|--|
| CS_OFFL_SIR_NOPM1B_20211114T085915_20211114T090143_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPM1B_20211114T103843_20211114T103846_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPM1B_20211114T161013_20211114T162402_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPN1B_20211114T013935_20211114T014515_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPN1B_20211114T023023_20211114T023250_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPN1B_20211114T023412_20211114T023531_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPN1B_20211114T044551_20211114T044636_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPN1B_20211114T203015_20211114T203452_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPR1B_20211114T012806_20211114T013504_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPR1B_20211114T072240_20211114T072341_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPR1B_20211114T090143_20211114T091106_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPR1B_20211114T100132_20211114T100419_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPR1B_20211114T114027_20211114T114433_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPR1B_20211114T122240_20211114T123003_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPR1B_20211114T130545_20211114T130734_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPR1B_20211114T171935_20211114T172604_C001 | Loss of Echo | The tracking echo is missing for one or more records |
| CS_OFFL_SIR_NOPR1B_20211114T212112_20211114T212349_C001 | Loss of Echo | The tracking echo is missing for one or more records |

## 5. NOP Level 2 Data Quality Check

## 5.1 L2 Product Format Check

Each product, retrieved and unpacked from the science server, is checked to ensure it consists of both an XML header file (.HDR) and a binary product file (.DBL). Number of products with errors: 0

## 5.2 L2 Product Header Analysis

For all products, a series of pre-defined checks are performed on the MPH and SPH in order to identify any inconsistencies and/or errors raised by the ground-segment processing chain. Number of products with errors: 0

# 5.3 L2 Auxiliary Data File Usage Check

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

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

Number of products with errors:

#### 5.4 L2 Auxiliary Correction Error Check

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

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

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

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

41

> 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<br>Mean Sea Surface (1), Mean Dynamic   | Description  |
|---|---|--|
| CS_OFFL_SIR_NOPN_2_20211114T000030_20211114T000344_C001 | Topography (1), Total Geocentric Ocean<br>Tide (GOT), Total Geocentric Ocean<br>Tide (FES), Non-Equilibrium Long Period<br>Ocean Tide | There is an error with the MSS height (solution 1), the Mean Dynamic<br>Topography (solution 1) and the tidal corrections for one or more records  |
| CS_OFFL_SIR_NOPN_2_20211114T013505_20211114T013741_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_NOPN_2_20211114T013935_20211114T014515_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_NOPN_2_20211114T023023_20211114T023250_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_NOPN_2_20211114T031340_20211114T031642_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_NOPN_2_20211114T040933_20211114T041040_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_NOPN_2_20211114T045236_20211114T045442_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_NOPN_2_20211114T054849_20211114T055438_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1), Total Geocentric Ocean<br>Tide (GOT)  | There is an error with the MSS height (solution 1), the Mean Dynamic<br>Topography height (solution 1) and the Total Geocentric Ocean Tide<br>height (solution 1: GOT) for one or more records |
| CS_OFFL_SIR_NOPN_2_20211114T064130_20211114T064402_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or more records  |
| CS_OFFL_SIR_NOPN_2_20211114T081130_20211114T081250_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records   |
| CS_OFFL_SIR_NOPN_2_20211114T091106_20211114T091458_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or more records  |
| CS_OFFL_SIR_NOPN_2_20211114T095120_20211114T095447_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_NOPN_2_20211114T113028_20211114T113348_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records   |
| CS_OFFL_SIR_NOPN_2_20211114T113904_20211114T114027_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records   |
| CS_OFFL_SIR_NOPN_2_20211114T122028_20211114T122240_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records   |
| CS_OFFL_SIR_NOPN_2_20211114T131802_20211114T131912_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or more records  |
| CS_OFFL_SIR_NOPN_2_20211114T145504_20211114T145702_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_NOPN_2_20211114T153842_20211114T154059_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_NOPN_2_20211114T164135_20211114T164249_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records   |
| CS_OFFL_SIR_NOPN_2_20211114T180419_20211114T180725_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or more records  |
| CS_OFFL_SIR_NOPN_2_20211114T181406_20211114T181635_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records   |
| CS_OFFL_SIR_NOPN_2_20211114T185404_20211114T185758_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or more records  |
| CS_OFFL_SIR_NOPN_2_20211114T203015_20211114T203452_C001 | Total Geocentric Ocean Tide (GOT)   | There is an error with the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records  |
| CS_OFFL_SIR_NOPN_2_20211114T212349_20211114T212513_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records   |
| CS_OFFL_SIR_NOPN_2_20211114T223313_20211114T223441_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or<br>more records   |
| CS_OFFL_SIR_NOPN_2_20211114T231003_20211114T231306_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_NOPR_2_20211114T030910_20211114T031340_C001 | Mean Sea Surface (1)  | There is an error with the MSS height (solution 1) for one or more records   |
| CS_OFFL_SIR_NOPR_2_20211114T040256_20211114T040553_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography height for one or more records  |
| CS_OFFL_SIR_NOPR_2_20211114T040553_20211114T040933_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_NOPR_2_20211114T072406_20211114T072905_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_NOPR_2_20211114T090143_20211114T091106_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_NOPR_2_20211114T104156_20211114T105000_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records  |
| CS_OFFL_SIR_NOPR_2_20211114T122240_20211114T123003_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)  | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records  |
|   | Mean Sea Surface (1), Mean Dynamic  | There is an error with the MSS height (solution 1) and the Mean Dynamic  |

| CS_OFFL_SIR_NOPR_2_20211114T151628_20211114T151842_C001 |  | There is an error with the MSS height (solution 1) and the Total<br>Geocentric Ocean Tide height (solution 1: GOT) for one or more records |
|---|--|--|
| CS_OFFL_SIR_NOPR_2_20211114T154059_20211114T154453_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records          |
| CS_OFFL_SIR_NOPR_2_20211114T154453_20211114T154800_C001 | Iviean Dynamic Lopodraphy (1)                        | There is an error with the Mean Dynamic Topography height for one or<br>more records   |
| CS_OFFL_SIR_NOPR_2_20211114T171935_20211114T172604_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records          |
| CS_OFFL_SIR_NOPR_2_20211114T185759_20211114T190637_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records             |
| CS_OFFL_SIR_NOPR_2_20211114T190637_20211114T190716_C001 | Mean Dynamic Topography (1)                          | There is an error with the Mean Dynamic Topography height for one or<br>more records   |
| CS_OFFL_SIR_NOPR_2_20211114T203452_20211114T204234_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1) | There is an error with the MSS height (solution 1) and the Mean Dynamic<br>Topography height (solution 1) for one or more records          |

## 5.5 L2 Measurement Confidence Data Check

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

Number of products with errors:

| Product   | Test Failed         | Description   |
|---|---------------------|---|
| CS_OFFL_SIR_NOPM_2_20211114T025454_20211114T030910_C001 | Power scaling error | There is an error in the scaling of the L2 waveform for one or more records |
| CS_OFFL_SIR_NOPM_2_20211114T142943_20211114T143044_C001 | Power scaling error | There is an error in the scaling of the L2 waveform for one or more records |
| CS_OFFL_SIR_NOPM_2_20211114T222517_20211114T222550_C001 | Power scaling error | There is an error in the scaling of the L2 waveform for one or more records |

## 5.6 L2 Measurement Quality Flag Check

## L2 Quality Flags (20Hz)

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

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

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

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

85

3

#### Number of products with errors:

| Product   | Test Failed  | Description  |
|---|--|--|
| CS_OFFL_SIR_NOPM_2_20211114T000721_20211114T004245_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T004323_20211114T004326_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_NOPM_2_20211114T005431_20211114T005453_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T010525_20211114T012806_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T013741_20211114T013935_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_NOPM_2_20211114T014705_20211114T015932_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T020053_20211114T020354_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T020836_20211114T022106_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T023537_20211114T025304_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T025454_20211114T030910_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T031642_20211114T031846_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality   | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPM_2_20211114T031944_20211114T032348_C001 | OCOG Altimeter Range Quality, OCOG Backscatter Quality   | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPM_2_20211114T032551_20211114T033933_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T034303_20211114T034748_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T034750_20211114T035226_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |

| C GPRL SR HERY 2 2011111102120 20111111102000     Court Answar Rugs, SPR, SPR, SPR, SPR, SPR, SPR, SPR, SPR  | CS_OFFL_SIR_NOPM_2_20211114T041532_20211114T043154_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
|--|---|--|--|
| <ul> <li>Cite, Diff, Jaff, NOPM, 2. 2011111103054, 202111111030510, 2001</li> <li>Cite, Diff, Jaff, NOPM, 2. 2011111103054, 20211111103054, 20211111103054, 20211111103054, 20211111103054, 20211111103054, 20211111103054, 20211111103054, 20211111103054, 20211111103054, 20211111103054, 20211111103054, 20211111103054, 20211111103054, 20211111103054, 20211111103054, 2021111111103054, 202111111103054, 202111111103054, 202111111103054, 202111111103054, 2021111111103054, 202111111103054, 202111111103054, 2021111111103054, 2021111111103054, 2021111111103054, 2021111111103054, 20211111111111111111, 2021111111103054, 202111111111111111111, 2021111111103054, 2021111111111111111111, 20211111111111</li></ul>  | CS_OFFL_SIR_NOPM_2_20211114T043730_20211114T044550_C001 | and Backscatter Quality, OCOG  | and the OCOG Altimeter Range and Backscatter Quality Flags have been   |
| Control         Control <t< td=""><td>CS_OFFL_SIR_NOPM_2_20211114T044636_20211114T045019_C001</td><td>and Backscatter Quality, OCOG</td><td>and the OCOG Altimeter Range and Backscatter Quality Flags have been</td></t<>   | CS_OFFL_SIR_NOPM_2_20211114T044636_20211114T045019_C001 | and Backscatter Quality, OCOG  | and the OCOG Altimeter Range and Backscatter Quality Flags have been   |
| DC_DFL_SR_NOM_2_321111103546_2011111135546_2011111135546_2011111135546_2011111135546_2011111135546_201111111135546_20111111135546_20111111135546_20111111135546_20111111135546_20111111135546_20111111135556_20111111135546_20111111135556_20111111135556_20111111135556_20111111135556_20111111135556_20111111135556_20111111135556_20111111135556_20111111135556_20111111135556_2011111111135556_201111111135556_20111111111111111111111111111111111111   | CS_OFFL_SIR_NOPM_2_20211114T045442_20211114T050251_C001 |  |  |
| CB_0FFL_SR_MOR4_2_X211114TB0042_X21  | CS_OFFL_SIR_NOPM_2_20211114T050546_20211114T052046_C001 | and Backscatter Quality, OCOG  | and the OCOG Altimeter Range and Backscatter Quality Flags have been   |
| Control Biological Control         Bioaccenter County         For comments researds.           CBL_OFFL_SPL_VOPM_2_2021114T100440_2021114T10010_COUNT         Coden Advances França SSIA, SWIA         To Coden Advances França SSIA, SWIA and Biodecenter County França           CBL_OFFL_SPL_VOPM_2_2021114T107444_20211114T1071142011011010  | CS_OFFL_SIR_NOPM_2_20211114T060342_20211114T062940_C001 | and Backscatter Quality, OCOG  | and the OCOG Altimeter Range and Backscatter Quality Flags have been   |
| CS_DFL_SR_NOPK_2.8011114100466_2011114100460_2011       And Bascatter Cuality Cost       and the COSt Animeter Range and Bascatter Cuality Flags have been at our on one records.         CS_DFL_SR_NOPK_2.20211141100147_20211114100115_C001       COSTA Manuter Range, SSM, SWI and Bascatter Cuality Flags have been at the COSTA Animeter Range, SSM, SWI and Bascatter Cuality Flags have been at the COSTA Animeter Range and Bascatter Cuality Flags have been at the COSTA Animeter Range, SSM, SWI and Bascatter Cuality Flags have been at the COSTA Animeter Range and Bascatter Cuality Flags have been at the COSTA Animeter Range and Bascatter Cuality Flags have been at the COSTA Animeter Range and Bascatter Cuality Flags have been at the COSTA Animeter Range and Bascatter Cuality Flags have been at the COSTA Animeter Range and Bascatter Cuality Flags have been at the COSTA Animeter Range and Bascatter Cuality Flags have been at the COSTA Animeter Range and Bascatter Cuality Flags have been at the COSTA Animeter Range and Bascatter Cuality Flags have been at the COSTA Animeter Range and Bascatter Cuality Flags have been at the COSTA Animeter Range and Bascatter Cuality Flags have been at the COSTA Animeter Range and Bascatter Cuality Flags have been at the COSTA Animeter Range and Bascatter Cuality Flags have been at the COSTA Animeter Range and Bascatter Cuality Flags have been at the COSTA Animeter Range and Bascatter Cuality Flags have been at the COSTA Animeter Range and Bascatter Cuality Flags have been at the COSTA Animeter Range and Bascatter Cuality Flags have been at the COSTA Animeter Range and Bascatter Cuality Flags have been at the COSTA Animeter Range and Bascatter Cuality Flags have been at the COSTA Animeter Range and Bascatter Cuality Flags have been at the COSTA Animeter Range and Bascatter Cuality Flags have been at the COSTA Animeter Range and Bascatter Cuality Flags have been at the COSTA Animeter Range and Bascatter Cual   | CS_OFFL_SIR_NOPM_2_20211114T063609_20211114T064130_C001 |  |  |
| Bornelling and Backscatter Cuality     borne or more records     bornelling     borneling     bornelling     bornelling     bornelling     bornelling                                  | CS_OFFL_SIR_NOPM_2_20211114T064549_20211114T070801_C001 | and Backscatter Quality, OCOG  | and the OCOG Altimeter Range and Backscatter Quality Flags have been   |
| 05.0FPL_SIR_NOPM_2_202111410843_2021114108515_0001         and Bedecatter Quality_COOd<br>Author Engrg on Blackscatter Quality Flags have been<br>additional to an inner increase.           05.0FPL_SIR_NOPM_2_20211141081637_202111141085152_0001         DOG_G Alimeter Range Quality_COOd<br>Backscatter Quality         The OCOG Alimeter Range and Backscatter Quality Flags have been<br>additional to an inner increase.           05.0FPL_SIR_NOPM_2_202111141085152_0001         DOG_G Alimeter Range Quality_COOD<br>Backscatter Quality         The OCOG Alimeter Range Additional to an inner increase.           05.0FPL_SIR_NOPM_2_20211114108512_0001         DOG An Alimeter Range Additional to an inner increase.         The OCOG Alimeter Range additional to an inner increase.           05.0FPL_SIR_NOPM_2_20211114108512_0001         Does Alimeter Range additional to an inner increase.         The OCOG Alimeter Range additional to an inner increase.           05.0FPL_SIR_NOPM_2_20211114108512_00011         Does Alimeter Range additional to an inner increase.         The OCOG Alimeter Range additional to an inner increase.           05.0FPL_SIR_NOPM_2_202111141108512_0001         DOGG Alimeter Range additional to an inner increase.         The OCOG Alimeter Range additional to an inner increase.           05.0FPL_SIR_NOPM_2_202111141108512_0001         DOGG Alimeter Range additional to an inner increase.         The OCOG Alimeter Range additional to an inner increase.           05.0FPL_SIR_NOPM_2_202111141108512_0001         DOGG Alimeter Range additional to an inner increase.         The OCOG Alimeter Range additadisacter Outly Flags have been at<br>the one on rore r   | CS_OFFL_SIR_NOPM_2_20211114T071147_20211114T071158_C001 |  |  |
| Mod_PPE_SR_NOPM_2_202111410831_202111410851_202001         Backscatter Coulty         for one or more records.           OS_OFFL_SIR_NOPM_2_2021114108245_0001         Ocean Altimeter Range, SSHA, SWH         The Ocean Altimeter Range, SSHA, SWH         The Ocean Altimeter Range, SSHA, SWH           OS_OFFL_SIR_NOPM_2_20211114108245_0001         Ocean Altimeter Range, SSHA, SWH         The Ocean Altimeter Range, SSHA, SWH         The Ocean Altimeter Range, SSHA, SWH           OS_OFFL_SIR_NOPM_2_20211114108245_0001         Ocean Altimeter Range, SSHA, SWH         The Ocean Altimeter Range, SSHA, SWH         The Ocean Altimeter Range, SSHA, SWH           CS_OFFL_SIR_NOPM_2_20211114108245_0001         Ocean Altimeter Range, SSHA, SWH         The Ocean Altimeter Range, SSHA, SWH         The Ocean Altimeter Range, SSHA, SWH           CS_OFFL_SIR_NOPM_2_20211114108247_20211114108245_0001         Ocean Altimeter Range, SSHA, SWH         The Ocean Altimeter Range and Backscatter Ouality Flags have been Altimeter Range, SSHA, SWH           CS_OFFL_SIR_NOPM_2_202111141108247_2021111411108247_2021111411108247_2021111411108247_2021111411108247_20211114111082  | CS_OFFL_SIR_NOPM_2_20211114T074243_20211114T080755_C001 | and Backscatter Quality, OCOG  | and the OCOG Altimeter Range and Backscatter Quality Flags have been   |
| CS_OFFL_SIR_NOPM_2_20211114T084453_20211114T085125_0001       and the DCORA Altmeter Range and Backscatter Quality Flage have been alt to one or more records.         CS_OFFL_SIR_NOPM_2_20211114T00459_20211114T004651_C001       Cocan Altmeter Range Quality, COCG Altmeter Range and Backscatter Quality Flage have been alt backscatter Quality Flage have been alto alto alto alto alto alto alto alto  | CS_OFFL_SIR_NOPM_2_20211114T081537_20211114T082139_C001 |  |  |
| CS_OFFL_SIR_NOPM_2_2021114T09515_20211114T090142_0001       and Backscatter Quality COGG       and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_2021114T091459_20211114T09015_0001       Ocean Alimeter Range and Backscatter Quality Flags have been set for one or more records.       The Ocean Alimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T095447_20211114T100015_0001       OCEAn Alimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.       The Ocean Alimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T100391_20211114T100015_0001       Ocean Alimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.       The Ocean Alimeter Range, SSHA, SWH and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T100391_20211114T100391_20211114T10055_0001       Ocean Alimeter Range, SSHA, SWH and Backscatter Quality Flags have been alimeter Range and Backscatter Quality Flags have been aliter Range and Backscatter Quality Flags have been aliter one or more records.         CS_OFFL_SIR_NOPM_2_20211114T110555_2021114T112654_0001   | CS_OFFL_SIR_NOPM_2_20211114T082453_20211114T085125_C001 | and Backscatter Quality, OCOG  | and the OCOG Altimeter Range and Backscatter Quality Flags have been   |
| CS_OFFL_SIR_NOPM_2_20211114T091459_20211114T109451_0001       and Backscatter Quality COCG<br>Attimeter Range and Backscatter Quality and the COCG Attimeter Range and Backscatter Quality and the COCG Attimeter Range and Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T1094647_20211114T100015_C001       CCG Attimeter Range Quality.CCCG<br>Backscatter Quality.CCCG<br>Attimeter Range SNA, SWH<br>and Backscatter Quality Flags have been set<br>for one or more records.       The OCCGA Attimeter Range and Backscatter Quality Flags<br>and the OCCG Attimeter Range SNA, SWH<br>and the OCCG Attimeter Range SNA, SWH<br>and the OCCGA Attimeter Range, SSHA, SWH<br>and the OCCGA Attimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCCGA Attimeter Range SSHA, SWH and Backscatter Quality Flags<br>and the OCCGA Attimeter Range SSHA, SWH and Backscatter Quality Flags<br>and the OCCGA Attimeter Range SSHA, SWH and Backscatter Quality Flags<br>and the OCCGA Attimeter Range and Backscatter Quality Flags have been set<br>for one or more records                     | CS_OFFL_SIR_NOPM_2_20211114T085915_20211114T090142_C001 | and Backscatter Quality, OCOG  | and the OCOG Altimeter Range and Backscatter Quality Flags have been   |
| OS_OFFL_SIR_NOPM_2_00211141100015_0001         Backscatter Quality         for one or more records.           CS_OFFL_SIR_NOPM_2_0021114110042_022111141100804_0001         Coean Altmeter Range SSHA_SWH and Backscatter Quality Flags have been Altmeter Range and Backscatter Quality Set for one or more records.         The Ocean Altmeter Range and Backscatter Quality Set for one or more records.           CS_OFFL_SIR_NOPM_2_202111141103901_202111141104155_0001         Coean Altmeter Range SSHA_SWH and Backscatter Quality Flags have been Altmeter Range and Backscatter Quality.         The Ocean Altmeter Range and Backscatter Quality Set for one or more records.           CS_OFFL_SIR_NOPM_2_202111141103901_202111141110398_0001         Coean Altmeter Range, SSHA_SWH and Backscatter Quality Flags have been Altmeter Range and Backscatter Quality.         The Ocean Altmeter Range and Backscatter Quality Flags have been set for one or more records.           CS_OFFL_SIR_NOPM_2_202111141110556_0021         Coean Altmeter Range, SSHA_SWH and Backscatter Quality Flags have been set for one or more records.         The Ocean Altmeter Range and Backscatter Quality Flags have been set for one or more records.           CS_OFFL_SIR_NOPM_2_202111141110556_0021         Coean Altmeter Range ASHA_SWH and Backscatter Quality Flags have been set for one or more records.         The OCean Altmeter Range and Backscatter Quality Flags have been set for one or more records.           CS_OFFL_SIR_NOPM_2_202111141113034_0001         Coean Altmeter Range Quality, OCOG         The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.           CS_OFFL_SIR_NOPM_2_202111141113054_000  | CS_OFFL_SIR_NOPM_2_20211114T091459_20211114T094651_C001 | and Backscatter Quality, OCOG  | and the OCOG Altimeter Range and Backscatter Quality Flags have been   |
| CS_OFFL_SIR_NOPM_2_20211114T100420_20211114T10042_C001       and Backscatter Quality, COCG<br>Altimeter Range and Backscatter Quality, COCG<br>Altimeter Range, SSHA, SWH<br>and Backscatter Quality, COCG<br>Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T11334B_20211114T113452_C001       OCCG Altimeter Range Quality, OCCG<br>Backscatter Quality, COCG<br>Backscatter Quality, COCG<br>Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T113452_20211114T113452_2021       OCCG Altimeter Range Quality, OCCG<br>Backscatter Quality, COCG<br>Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T113452_20211114T113054_C001       OCCGA Altimeter Range, SSHA, SWH<br>and Backscatter Quality, COCG<br>Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T113157_20211114T113054_C001       OCCGA Altimeter Range ASHA, SWH and Backscatter Quality Flags<br>have been set<br>for one or mo  | CS_OFFL_SIR_NOPM_2_20211114T095447_20211114T100015_C001 |  |  |
| CS_OFFL_SIR_NOPM_2_20211114T104155_C001       and Backscatter Quality COG<br>Altimeter Range and Backscatter Quality Flags have been<br>Altimeter Range Altimeter Range Altimeter Range and Backscatter Quality Flags have been<br>Altimeter Range Altimeter Range Altimeter Range Altimeter Range and Backscatter Quality Flags have been<br>Altimeter Range Altimeter Range Altiter Altity Socoo<br>Altimeter Range Altimeter Range Altimet | CS_OFFL_SIR_NOPM_2_20211114T100420_20211114T100804_C001 | and Backscatter Quality, OCOG  | and the OCOG Altimeter Range and Backscatter Quality Flags have been   |
| CS_OFFL_SIR_NOPM_2_20211114T1105351_20211114T110535_2021       and Backscatter Quality, QCOG<br>Altimeter Range and Backscatter Quality Flags have been<br>Altimeter Range and Backscatter Quality Stags have been<br>Altimeter Range Quality, OCOG<br>Altimeter Range Quality, OCOG<br>Altimeter Range Quality, OCOG<br>Altimeter Range Quality, OCOG<br>Altimeter Range Quality, OCOG<br>Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T113465_20211114T113904_C001       OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality       The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T113455_20211114T113904_C001       OCOG Altimeter Range Quality, OCOG<br>Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.       The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T1141111111111111111111111111111  | CS_OFFL_SIR_NOPM_2_20211114T103901_20211114T104155_C001 | and Backscatter Quality, OCOG  | and the OCOG Altimeter Range and Backscatter Quality Flags have been   |
| CS_OFFL_SIR_NOPM_2_20211114T110536_20211114T112654_C001       and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality set for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T113458_20211114T113452_C001       OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality       The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T113455_20211114T113904_C001       OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality       The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T113455_20211114T113904_C001       OCOG Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T1120041_C001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T123021_20211114T130544_C001       Ocean Altimeter Range ASHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T131357_20211114T131404_C001       OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality       The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T131401_20211114T131802_C001       OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality       The OCOG Altimeter Range and Backscatter Quality Flags have been   | CS_OFFL_SIR_NOPM_2_20211114T105351_20211114T110359_C001 | and Backscatter Quality, OCOG  | and the OCOG Altimeter Range and Backscatter Quality Flags have been   |
| CS_OFFL_SIR_NOPM_2_20211114T11345_20211114T11345_2001       Backscatter Quality       for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T113455_20211114T113904_C001       OCOG Altimeter Range Quality, OCOG       The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T114433_20211114T120041_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range, and Backscatter Quality, OCOG Altimeter Range, and Backscatter Quality Flags have been and Backscatter Quality Flags have been and Backscatter Quality Flags and the OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been and Backscatter Quality Flags and Backscatter Quality Flags and the OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags have been and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T131400_20211114T131802_C001       OCOG Altimeter Range Quality, OCOG       The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T132452_20211114T132452_20211114T133837_C001       OCOG   | CS_OFFL_SIR_NOPM_2_20211114T110536_20211114T112654_C001 | and Backscatter Quality, OCOG  | and the OCOG Altimeter Range and Backscatter Quality Flags have been   |
| CS_OFFL_SIR_NOPM_2_202111141113495_202111141113904_C001       Backscatter Quality       for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T114433_20211114T120041_C001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T1310544_C001       Ocean Altimeter Range Quality, OCOG<br>Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T131357_20211114T131404_C001       OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality, OCOG       The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T131404_C001       OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality       The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T131410_20211114T131802_C001       OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality, OCOG       The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T132452_20211114T133837_C001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG </td <td>CS_OFFL_SIR_NOPM_2_20211114T113348_20211114T113452_C001</td> <td></td> <td></td>   | CS_OFFL_SIR_NOPM_2_20211114T113348_20211114T113452_C001 |  |  |
| CS_OFFL_SIR_NOPM_2_20211114T114433_20211114T120041_C001and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Qualityand the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records.CS_OFFL_SIR_NOPM_2_20211114T123021_20211114T130544_C001Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter QualityThe Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags<br>have been set for one or more records.CS_OFFL_SIR_NOPM_2_20211114T131357_20211114T131404_C001OCOG Altimeter Range Quality, OCOG<br>Backscatter QualityThe OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.CS_OFFL_SIR_NOPM_2_20211114T131410_20211114T131802_C001OCOG Altimeter Range Quality, OCOG<br>Backscatter QualityThe OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.CS_OFFL_SIR_NOPM_2_20211114T131410_20211114T131802_C001OCOG Altimeter Range Quality, OCOG<br>Backscatter QualityThe OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.CS_OFFL_SIR_NOPM_2_20211114T131410_20211114T133837_C001OCOG Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOGThe OCOG Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags<br>and t  | CS_OFFL_SIR_NOPM_2_20211114T113455_20211114T113904_C001 |  |  |
| CS_OFFL_SIR_NOPM_2_20211114T123021_20211114T130544_C001       and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality       and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T131357_20211114T131404_C001       OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality       The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T131410_20211114T131802_C001       OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality       The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T131410_20211114T131802_C001       OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality       The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T132452_20211114T133837_C001       Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG       The OCOG Altimeter Range and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags  | CS_OFFL_SIR_NOPM_2_20211114T114433_20211114T120041_C001 | and Backscatter Quality, OCOG  | and the OCOG Altimeter Range and Backscatter Quality Flags have been   |
| CS_OFFL_SIR_NOPM_2_20211114T131357_20211114T131404_C001       Backscatter Quality       for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T131410_20211114T131802_C001       OCOG Altimeter Range Quality, OCOG       The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T132452_20211114T133837_C001       Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and Backscatter Quality Flags have been set and Backscatter Quality Flags have been   | CS_OFFL_SIR_NOPM_2_20211114T123021_20211114T130544_C001 | and Backscatter Quality, OCOG  | and the OCOG Altimeter Range and Backscatter Quality Flags have been   |
| CS_OFFL_SIR_NOPM_2_2021114T131410_2021114T131802_C001       Backscatter Quality       for one or more records.         CS_OFFL_SIR_NOPM_2_20211114T132452_20211114T133837_C001       Ocean Altimeter Range, SSHA, SWH       The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been  | CS_OFFL_SIR_NOPM_2_20211114T131357_20211114T131404_C001 |  |  |
| CS_OFFL_SIR_NOPM_2_20211114T132452_20211114T133837_C001 and Backscatter Quality, OCOG and the OCOG Altimeter Range and Backscatter Quality Flags have been   | CS_OFFL_SIR_NOPM_2_20211114T131410_20211114T131802_C001 |  |  |
|  | CS_OFFL_SIR_NOPM_2_20211114T132452_20211114T133837_C001 | and Backscatter Quality, OCOG  | and the OCOG Altimeter Range and Backscatter Quality Flags have been   |
| CS_OFFL_SIR_NOPM_2_20211114T134957_20211114T135631_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.  | CS_OFFL_SIR_NOPM_2_20211114T134957_20211114T135631_C001 | and Backscatter Quality, OCOG  | and the OCOG Altimeter Range and Backscatter Quality Flags have been   |

| CS_OFFL_SIR_NOPM_2_20211114T141148_20211114T142330_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
|---|--|--|
| CS_OFFL_SIR_NOPM_2_20211114T143159_20211114T144532_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T144733_20211114T145250_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPM_2_20211114T145324_20211114T145503_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPM_2_20211114T150312_20211114T151628_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T151842_20211114T153519_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T155307_20211114T155504_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPM_2_20211114T155809_20211114T160703_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T161013_20211114T162402_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T162700_20211114T163202_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPM_2_20211114T163239_20211114T163340_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPM_2_20211114T164034_20211114T164135_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T164709_20211114T165254_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T170344_20211114T170438_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T170505_20211114T171053_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T171216_20211114T171357_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T174230_20211114T180247_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T181833_20211114T184614_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T191816_20211114T194159_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T194512_20211114T195034_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPM_2_20211114T195041_20211114T195406_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPM_2_20211114T195810_20211114T203015_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T210037_20211114T211400_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T211704_20211114T212112_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T212514_20211114T213313_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPM_2_20211114T213843_20211114T221022_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T222341_20211114T222448_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |

| CS_OFFL_SIR_NOPM_2_20211114T223612_20211114T223703_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
|---|--|--|
| CS_OFFL_SIR_NOPM_2_20211114T225218_20211114T225908_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T230448_20211114T231002_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPM_2_20211114T231659_20211114T233814_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPM_2_20211114T234100_20211114T235126_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211114T050252_20211114T050439_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211114T102021_20211114T102049_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T113028_20211114T113348_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T171422_20211114T171539_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T212349_20211114T212513_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPR_2_20211114T023532_20211114T023536_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T034102_20211114T034303_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T041239_20211114T041420_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T094651_20211114T095120_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T120912_20211114T120923_C001 | OCOG Altimeter Range Quality, OCOG<br>Backscatter Quality  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_NOPR_2_20211114T233814_20211114T234059_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG<br>Altimeter Range and Backscatter Quality | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |

1

## L2 Quality Flags (20Hz PLRM)

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

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

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

75

Number of products with errors:

| Product   | Test Failed   | Description  |
|---|---|--|
| CS_OFFL_SIR_NOPN_2_20211114T000030_20211114T000344_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211114T013505_20211114T013741_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T023412_20211114T023531_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T032348_20211114T032525_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211114T043155_20211114T043730_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T052948_20211114T053330_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T054849_20211114T055438_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211114T063142_20211114T063148_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |

| CS_OFFL_SIR_NOPN_2_20211114T063533_20211114T063608_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
|---|---|--|
| CS_OFFL_SIR_NOPN_2_20211114T071159_20211114T071300_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T081349_20211114T081537_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T082139_20211114T082256_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T091106_20211114T091458_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T095120_20211114T095447_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211114T105000_20211114T105222_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T113028_20211114T113348_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211114T120041_20211114T120408_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T122028_20211114T122240_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211114T145504_20211114T145702_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211114T153842_20211114T154059_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T155505_20211114T155808_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T162512_20211114T162700_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T164135_20211114T164249_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T165254_20211114T165731_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T171422_20211114T171539_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T181406_20211114T181635_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T184615_20211114T184815_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T191406_20211114T191552_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T195407_20211114T195528_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPN_2_20211114T204234_20211114T204310_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T213313_20211114T213425_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T222631_20211114T222754_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T224030_20211114T224214_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPN_2_20211114T224443_20211114T224536_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPR_2_20211114T000345_20211114T000721_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
|   |   |  |

| CS_OFFL_SIR_NOPR_2_20211114T012806_20211114T013504_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
|---|---|--|
| CS_OFFL_SIR_NOPR_2_20211114T014515_20211114T014705_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T030910_20211114T031340_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T040256_20211114T040553_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T040553_20211114T040933_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T041239_20211114T041420_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T050439_20211114T050546_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T052047_20211114T052325_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPR_2_20211114T062940_20211114T063141_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T080755_20211114T081130_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T090143_20211114T091106_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T094651_20211114T095120_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T100132_20211114T100419_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T103449_20211114T103744_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPR_2_20211114T104156_20211114T105000_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T112655_20211114T113027_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T114027_20211114T114433_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T122240_20211114T123003_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T123007_20211114T123020_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPR_2_20211114T130545_20211114T130734_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T131913_20211114T132305_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T140144_20211114T140856_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPR_2_20211114T145702_20211114T150312_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T151628_20211114T151842_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPR_2_20211114T154453_20211114T154800_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T160833_20211114T161012_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPR_2_20211114T171935_20211114T172604_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |

| CS_OFFL_SIR_NOPR_2_20211114T185759_20211114T190637_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
|---|---|--|
| CS_OFFL_SIR_NOPR_2_20211114T195528_20211114T195810_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T203452_20211114T204234_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T204537_20211114T204713_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPR_2_20211114T212112_20211114T212349_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T213425_20211114T213842_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T221142_20211114T221233_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPR_2_20211114T222550_20211114T222631_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPR_2_20211114T222755_20211114T222912_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPR_2_20211114T224922_20211114T225018_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| CS_OFFL_SIR_NOPR_2_20211114T225909_20211114T230322_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T231307_20211114T231659_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_NOPR_2_20211114T235241_20211114T235256_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one<br>or more records.   |
| 12 Quality Flags (1 Hz & 1Hz DI DM)                     |   |  |

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

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

172

73

124

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

Number of products with errors:

## 5.7 L2 Ocean Retracking Quality Check

#### L2 Retracking Flags (20Hz)

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

Ocean Retracking Quality Flag: This flag is currently set for products falling at ocean/ land boundaries, but this is expected.

Number of products with errors:

### L2 Retracking Flags (20Hz, PLRM)

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

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

### Number of products with errors:

## 7. NOP QCC Report Analysis

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

| Product type | No. Products | No. QCC Reports | No. Valid | No. Warnings | No. Errors |
|--------------|--------------|-----------------|-----------|--------------|------------|
| SIR_NOPM1B   | 166          | 166             | 5         | 161          | 0          |
| SIR_NOPR1B   | 100          | 100             | 0         | 100          | 0          |
| SIR_NOPN1B   | 95           | 95              | 0         | 95           | 0          |
| SIR_NOPM_2   | 166          | 166             | 107       | 59           | 0          |
| SIR_NOPR_2   | 100          | 100             | 30        | 69           | 1          |
| SIR_NOPN_2   | 95           | 95              | 40        | 55           | 0          |

## 7.1 QCC Errors

#### Number of QCC reports with errors:

|                        |      |            |    | Total number | of occurrences | of each error |   |   |   |   |
|------------------------|------|------------|----|--------------|----------------|---------------|---|---|---|---|
| Product Type RLOBOPNCD | F RL | RLOBOPNCDF | RL | -            | -              | -             | - | - | - | - |
| SIR_NOPR_2 1           | 1    | 1          | 1  |              |                |               |   |   |   |   |
|                        |      |            |    |              |                |               |   |   |   |   |
| Test Description Key:  |      |            |    |              |                |               |   |   |   |   |

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

4

## Total number of occurrences of each warning

| Product Type             | BCSHNCDF      | IOHHMOOR          | MVIOEPFDNCDF    | MVIOEPNCDF        | MVIONCDF           | RBSZOPOEPFDNCDF  | RBSZOPOEPFDPLRMNCD |
|--------------------------|---------------|-------------------|-----------------|-------------------|--------------------|------------------|--------------------|
| SIR_NOPM1B               | 161           | 0                 | 0               | 0                 | 0                  | 0                | 0                  |
| SIR_NOPM_2               | 0             | 0                 | 47              | 45                | 0                  | 42               | 0                  |
| SIR_NOPN1B               | 95            | 0                 | 0               | 0                 | 0                  | 0                | 0                  |
| SIR_NOPN_2               | 0             | 0                 | 11              | 29                | 3                  | 24               | 28                 |
| SIR_NOPR1B               | 98            | 0                 | 0               | 0                 | 0                  | 0                | 0                  |
| SIR_NOPR_2               | 0             | 1                 | 34              | 42                | 1                  | 29               | 22                 |
|                          |               |                   |                 |                   |                    |                  |                    |
| Product Type             | RBSZOPOEPNCDF | RNELPOTONCDF      | RPEPOPFDLRMNCDF | RPEPOPFDPLRMSARNC | RPEPOPFDPLRMSINNCD | RPEPOPFDSARNCDF  | RPEPOPFDSINNCDF    |
| SIR_NOPM1B               | 0             | 0                 | 0               | 0                 | 0                  | 0                | 0                  |
| SIR_NOPM_2               | 30            | 1                 | 37              | 0                 | 0                  | 0                | 0                  |
| SIR_NOPN1B               | 0             | 0                 | 0               | 0                 | 0                  | 0                | 0                  |
| SIR_NOPN_2               | 20            | 0                 | 0               | 0                 | 22                 | 0                | 29                 |
| SIR_NOPR1B               | 0             | 0                 | 0               | 0                 | 0                  | 0                | 0                  |
| SIR_NOPR_2               | 15            | 0                 | 0               | 42                | 0                  | 48               | 0                  |
|                          |               |                   |                 |                   |                    |                  |                    |
| Product Type             | RPEPOPLRMNCDF | RPEPOPSARNCDF     | RPEPOPSINNCDF   | RSSBCONCDF        | RSSHAOFDNCDF       | RSSHAOFDPLRMNCDF | RSSHAONCDF         |
| SIR_NOPM1B               | 0             | 0                 | 0               | 0                 | 0                  | 0                | 0                  |
| SIR_NOPM_2               | 31            | 0                 | 0               | 5                 | 36                 | 0                | 5                  |
| SIR_NOPN1B               | 0             | 0                 | 0               | 0                 | 0                  | 0                | 0                  |
| SIR_NOPN_2               | 0             | 0                 | 24              | 21                | 37                 | 48               | 26                 |
| SIR_NOPR1B               | 0             | 0                 | 0               | 0                 | 0                  | 0                | 0                  |
| SIR_NOPR_2               | 0             | 41                | 0               | 3                 | 54                 | 36               | 11                 |
|                          |               |                   |                 |                   |                    |                  |                    |
| Product Type             | RSWHOEPFDNCDF | RSWHOEPFDPLRMNCDF | RSWHOEPNCDF     | SPHRTASCNSNCDF    | SOOHHIFHD          | SCSTODHRNCDF     | SCSTODNCDF         |
| SIR_NOPM1B               | 0             | 0                 | 0               | 1                 | 0                  | 0                | 0                  |
| SIR_NOPM_2               | 38            | 0                 | 3               | 1                 | 0                  | 0                | 0                  |
| SIR_NOPN1B               | 0             | 0                 | 0               | 0                 | 0                  | 43               | 0                  |
|                          |               | 05                | 13              | 0                 | 1                  | 0                | 0                  |
| SIR_NOPN_2               | 26            | 25                | 13              | 0                 | •                  | -                | •                  |
| SIR_NOPN_2<br>SIR_NOPR1B | 26<br>0<br>36 | 25<br>0<br>46     | 0               | 0                 | 0                  | 100              | 1                  |

| BCSHNCDF Burs<br>IOHHMOOR Inde<br>MVIOEPFDNCDF Miss<br>MVIOEPNCDF Miss | st name<br>rstCounterStep20HzNetCDF<br>exOf1Hzin20HzMappingOutOfRange<br>ssingValueIntOceanExcludingPolarFD2NetCDF<br>ssingValueIntOceanExcludingPolarNetCDF<br>ssingValueIntOceanNetCDF | Details           The burst counter should be one higher with regard to the previous burst counter           The mapping of 20 Hz to 1 Hz measurements should be in the range 0 to (number of 1 Hz samples - 1)           The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees           The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees |
|--|--|---|
| IOHHMOOR Inde<br>MVIOEPFDNCDF Miss<br>MVIOEPNCDF Miss                  | exOf1Hzin20HzMappingOutOfRange<br>ssingValueIntOceanExcludingPolarFD2NetCDF  | The mapping of 20 Hz to 1 Hz measurements should be in the range 0 to (number of 1 Hz samples - 1)<br>The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees<br>The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees  |
| MVIOEPFDNCDF Miss<br>MVIOEPNCDF Miss                                   | ssingValueIntOceanExcludingPolarFD2NetCDF<br>ssingValueIntOceanExcludingPolarNetCDF  | The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees<br>The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees  |
| MVIOEPNCDF Miss  | singValueIntOceanExcludingPolarNetCDF  | The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees  |
|  | 5 5  |   |
| MVIONCDF Miss  | ssingValueIntOceanNetCDF   |   |
|  |  | The value should not be a 'missing value' for surface type 0 only   |
| RBSZOPOEPFDNCDF Rang   | ngeBackscatterSigmaZeroOPOceanExcludingPolarFD2NetCDF  | The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes<br>between -70 and 70 decrees   |
| RBSZOPOEPFDPLRM Rang   |  | The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes<br>between -70 and 70 degrees   |
|  |  | The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes<br>between -70 and 70 degrees   |
| RNELPOTONCDF Rang  |  | The Non-equilibrium long period ocean loading tide height should be between -40mm and 40mm (or missing) for<br>surface type = ocean   |
| RPEPOPFDLRMNCDF Rang   |  | The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70<br>and 70 degrees  |
| RPEPOPFDPLRMSAR Rang   |  | The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70<br>and 70 degrees   |
|  |  | The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70<br>and 70 degrees   |
|  |  | The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70<br>and 70 degrees   |
| RPEPOPFDSINNCDF Rang   |  | The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70<br>and 70 degrees   |
| RPEPOPLRMNCDF Rang   |  | The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70<br>and 70 degrees  |
| RPEPOPSARNCDF Rang   |  | The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70<br>and 70 degrees   |
| RPEPOPSINNCDF Rang   | ngePeakinessExcludingPolarOPSINNetCDF  | The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70<br>and 70 degrees   |
| RSSBCONCDF Rang  | ngeSeaStateBiasCorrectionOceanNetCDF   | The sea state bias correction should be between -500mm and 0mm (or missing) for surface type = ocean  |
| RSSHAOFDNCDF Rang  |  | The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type =<br>ocean  |
| RSSHAOFDPLRMNCD Rang   | ngeSeaSurfaceHeightAnomalyOceanFD3PLRMNetCDF   | The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type =<br>ocean  |
| RSSHAONCDF Rang  | ngeSeaSurfaceHeightAnomalyOceanNetCDF  | The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type =<br>ocean  |
| RSWHOEPFDNCDF Rang   | ngeSignificantWaveHeightOceanExcludingPolarFD2NetCDF   | The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for<br>latitudes between -70 and 70 degrees   |
| RSWHOEPFDPLRMN Rang  |  | The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for<br>latitudes between -70 and 70 degrees   |
|  | ngeSignificantWaveHeightOceanExcludingPolarNetCDF  | The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for<br>latitudes between -70 and 70 degrees   |
| SPHRTASCNSNCDF SPH   | H_Rel_Time_ASC_Node_Start_v2_NetCDF  | Rel_Time_ASC_Node_Start mismatch (DBL ASC, rounded up to 0.1)   |
| SOOHHIFHD Sam  | meOrOneHigher1HzIndexFor20HzData   | The 1 Hz index of a 20 Hz sample should be the same or 1 higher than its previous sample  |
| SCSTODHRNCDF Sequ  | quenceCounterStepTODHRNetCDF   | The sequence counter should be modulo 4 higher with regard to the previous sequence counter   |
| SCSTODNCDF Sequ  | quenceCounterStepTODNetCDF   | The sequence counter should be one higher (modulo 16384) with regard to the previous sequence counter   |

# 7.3 Missing QCC Reports

Number of products with missing QCC reports:

0