

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

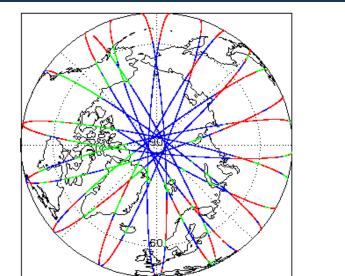
<u>07/02/2021</u>

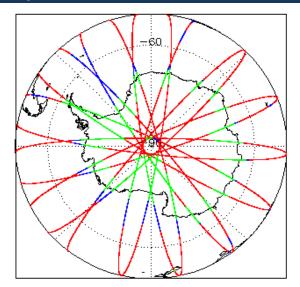
| an aut Duaduction. | 11 Mar 2021  | Check                                      | L1 & L2                      | P2P                     |
|--------------------|--|--|------------------------------|-------------------------|
| Report Production: | 11-Mar-2021  | Server check: science-pds.cryosat.esa.int  | Nominal                      | Nominal                 |
|                    |  | Server check: calval-pds.cryosat.esa.int   | Nominal                      | Nominal                 |
| Processor Used:    | CryoSat Ocean Processor  | Product Software Check                     | Nominal                      | Nominal                 |
| Dete llead:        | Geophysical Ocean Products (GOP)<br>L1B, L2 & P2P Science Data | Product Format Check                       | Nominal                      | Nominal                 |
| Data Used:         |  | Product Header Analysis                    | Nominal                      | Nominal                 |
|                    |  | Auxiliary Data File Usage Check            | Nominal                      | Nominal                 |
|                    |  | Auxiliary Correction Error Check           | See Section 5.4              | See Section 6.4         |
|                    |  | Measurement Confidence Data Check          | See Section 4.5, 4.6 and 5.5 | See Section 6.5         |
|                    |  | Range, SWH & Backscatter Measurement Check | See Section 5.6              | See Section 6.6         |
|                    |  | Ocean Retracking Quality Check             | See Section 5.7              | See Section 6.7         |
|                    |  | QCC Error/ Warning Check                   | See Section 7.1 and 7.2      | See Section 7.1 and 7.2 |

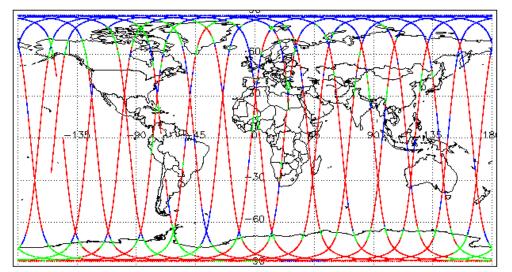
1. Overview

| Mission / Instr | Mission / Instrument News |  |  |
|-----------------|---------------------------|--|--|
| 06-Feb-2021     | None                      |  |  |
| 07-Feb-2021     | None                      |  |  |
| 08-Feb-2021     | Nothing planned           |  |  |









### Mode Coverage



# 3. Instrument Configuration

SIRAL instrument(s) in use:

SIRAL - A

0

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

# 4. GOP 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:

| 4.2 L1B Product Header Analysis   |  |  |  |  |
|---|--|--|--|--|
| For all products, a series of pre-defined checks are performed on the MPH and SPH in order to identify any inconsistencies and/or errors raised by the ground-segment processing chain.   |  |  |  |  |
| L1B Processing Quality HR: The I1b_proc_flag_hr flag is currently set all L1B GOPR and GOPN products because the I1b_processing_quality_hr field is not correctly configured in the OSAR and OSARIn chains. A modification is required in the next release. |  |  |  |  |
| Number of products with errors: 0   |  |  |  |  |
| 4.3 L1B Auxilary Data File Usage Check  |  |  |  |  |
| Each product is checked for missing Data Set Descriptors with respect to a pre-de   | termined baseline and also to check the va     | alidity of Auxiliary Data Files is correct.                                      |  |  |
| Number of products with errors: 0   |  |  |  |  |
| 4.4 L1B Auxiliary Correction Error Check  |  |  |  |  |
| CryoSat L1B data includes a correction error flag for each measurement record. T  | he bit value of this flag indicates any proble | ems when set.  |  |  |
| Number of products with errors: 0   |  |  |  |  |
| 4.5 L1B Measurement Confidence Data Check   |  |  |  |  |
| CryoSat L1B data includes a measurement confidence flag for each measuremen   | record. The hit value of this flag indicates   | any problems when set  |  |  |
| Attitude Correction Missing: This flag is currently set in error for GOPR products  | -  |  |  |  |
| Number of products with errors: 1   | s due to a configuration issue. This is being  | investigated and will be updated in the next Svy update.                         |  |  |
|   |  |  |  |  |
|   | Test Failed                                    | Description There is an error in the scaling of the L1B waveform for one or more |  |  |
| CS_OFFL_SIR_GOPM1B_20210207T142917_20210207T143536_C001   | Power scaling error                            | records  |  |  |
| 4.6 L1B Waveform Group Data Check   |  |  |  |  |
| CryoSat L1B data includes a waveform data flag for each measurement record. Th  | ne bit value of this flag indicates any proble | ms when set.   |  |  |
| Loss of Echo Flag: This flag is currently set for some products over land, but this   | is to be expected.                             |  |  |  |
| Number of products with errors: 15  |  |  |  |  |
| Product   | Test Failed                                    | Description  |  |  |
| CS_OFFL_SIR_GOPM1B_20210207T102929_20210207T105752_C001   | Loss of Echo                                   | The tracking echo is missing for one or more records                             |  |  |
| CS_OFFL_SIR_GOPN1B_20210207T000352_20210207T000552_C001   | Loss of Echo                                   | The tracking echo is missing for one or more records                             |  |  |
| CS_OFFL_SIR_GOPN1B_20210207T001548_20210207T001636_C001   | Loss of Echo                                   | The tracking echo is missing for one or more records                             |  |  |
| CS_OFFL_SIR_GOPN1B_20210207T002633_20210207T002829_C001   | Loss of Echo                                   | The tracking echo is missing for one or more records                             |  |  |
| CS_OFFL_SIR_GOPN1B_20210207T051028_20210207T051527_C001   | Loss of Echo                                   | The tracking echo is missing for one or more records                             |  |  |
| CS_OFFL_SIR_GOPN1B_20210207T060808_20210207T061420_C001   | Loss of Echo                                   | The tracking echo is missing for one or more records                             |  |  |
| CS_OFFL_SIR_GOPN1B_20210207T065002_20210207T065413_C001   | Loss of Echo                                   | The tracking echo is missing for one or more records                             |  |  |
| CS_OFFL_SIR_GOPN1B_20210207T100334_20210207T100929_C001   | Loss of Echo                                   | The tracking echo is missing for one or more records                             |  |  |
| CS_OFFL_SIR_GOPN1B_20210207T120725_20210207T120931_C001   | Loss of Echo                                   | The tracking echo is missing for one or more records                             |  |  |
| CS_OFFL_SIR_GOPN1B_20210207T201200_20210207T201649_C001   | Loss of Echo                                   | The tracking echo is missing for one or more records                             |  |  |
| CS_OFFL_SIR_GOPN1B_20210207T214409_20210207T214448_C001   | Loss of Echo                                   | The tracking echo is missing for one or more records                             |  |  |
| CS_OFFL_SIR_GOPN1B_20210207T232547_20210207T232612_C001   | Loss of Echo                                   | The tracking echo is missing for one or more records                             |  |  |
| CS_OFFL_SIR_GOPR1B_20210207T015652_20210207T020659_C001   | Loss of Echo                                   | The tracking echo is missing for one or more records                             |  |  |
| CS_OFFL_SIR_GOPR1B_20210207T092947_20210207T093049_C001   | Loss of Echo                                   | The tracking echo is missing for one or more records                             |  |  |
| CS_OFFL_SIR_GOPR1B_20210207T232423_20210207T232546_C001   | Loss of Echo                                   | The tracking echo is missing for one or more records                             |  |  |
| 5. GOP Level 2 Data Quality Check   |  |  |  |  |
| 5.1 L2 Product Format Check   |  |  |  |  |
| Each product retrieved and unpacked from the science server, is checked to ensu   | re it consists of both an XML beader file (    | HDR) and a binary product file ( DBI )   |  |  |
| 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 SF  | PH in order to identify any inconsistencies a  | and/or errors raised by the ground-segment processing chain.                     |  |  |
| Number of products with errors: 0   |  |  |  |  |
| 5.3 L2 Auxiliary Data File Usage Check  |  |  |  |  |
| Each product is checked for missing Data Set Descriptors with respect to a pre-determined baseline and also to check the validity of Auxiliary Data Files is correct.   |  |  |  |  |
| Number of products with errors: 0   |  |  |  |  |

# 5.4 L2 Auxiliary Correction Error Check

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

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

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

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

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

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| Product   | Test Failed   | Description  |
|---|---|--|
| CS_OFFL_SIR_GOPN_2_20210207T010457_20210207T010815_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_GOPN_2_20210207T011327_20210207T011453_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography (solution 1) for one<br>or more records   |
| CS_OFFL_SIR_GOPN_2_20210207T015550_20210207T015652_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_GOPN_2_20210207T025234_20210207T025342_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography (solution 1) for one<br>or more records   |
| CS_OFFL_SIR_GOPN_2_20210207T033458_20210207T033612_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_GOPN_2_20210207T051028_20210207T051527_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_GOPN_2_20210207T060808_20210207T061420_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_GOPN_2_20210207T065002_20210207T065413_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_GOPN_2_20210207T073847_20210207T074109_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography (solution 1) for one or more records  |
| CS_OFFL_SIR_GOPN_2_20210207T074738_20210207T075052_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography (solution 1) for one<br>or more records   |
| CS_OFFL_SIR_GOPN_2_20210207T082847_20210207T083236_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography (solution 1) for one<br>or more records   |
| CS_OFFL_SIR_GOPN_2_20210207T092831_20210207T092947_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography (solution 1) for one<br>or more records   |
| CS_OFFL_SIR_GOPN_2_20210207T110737_20210207T110854_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography (solution 1) for one<br>or more records   |
| CS_OFFL_SIR_GOPN_2_20210207T120056_20210207T120218_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography (solution 1) for one<br>or more records   |
| CS_OFFL_SIR_GOPN_2_20210207T120725_20210207T120931_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography (solution 1) for one<br>or more records   |
| CS_OFFL_SIR_GOPN_2_20210207T123741_20210207T123907_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography (solution 1) for one<br>or more records   |
| CS_OFFL_SIR_GOPN_2_20210207T124428_20210207T124737_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_GOPN_2_20210207T141724_20210207T141929_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_GOPN_2_20210207T142329_20210207T142659_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_GOPN_2_20210207T155807_20210207T160042_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_GOPN_2_20210207T165318_20210207T165439_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) and 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_GOPN_2_20210207T173335_20210207T173930_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_GOPN_2_20210207T182742_20210207T182844_C001 | Mean Dynamic Topography (1)   | There is an error with the Mean Dynamic Topography (solution 1) for one<br>or more records   |
| CS_OFFL_SIR_GOPN_2_20210207T183246_20210207T183458_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_GOPN_2_20210207T192555_20210207T192755_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_GOPN_2_20210207T201200_20210207T201649_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_GOPN_2_20210207T223611_20210207T223838_C001 | Mean Sea Surface (1), Mean Dynamic<br>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) and the Mean Dynamic<br>Topography height (solution 1), Total Geocentric Ocean Tide (GOT), Total<br>Geocentric Ocean Tide (FES) and the Non-Equilibrium Long Period Ocean<br>Tide for one or more records |
| CS_OFFL_SIR_GOPR_2_20210207T001636_20210207T002423_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_GOPR_2_20210207T015652_20210207T020659_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_GOPR_2_20210207T033612_20210207T034327_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_GOPR_2_20210207T051527_20210207T052245_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_GOPR_2_20210207T065413_20210207T065612_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_GOPR_2_20210207T065612_20210207T070107_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_GOPR_2_20210207T083236_20210207T084107_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_GOPR_2_20210207T100929_20210207T101711_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_GOPR_2_20210207T114904_20210207T115835_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_GOPR_2_20210207T132435_20210207T133423_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_GOPR_2_20210207T133423_20210207T133558_C001 | Mean Sea Surface (1), Mean Dynamic<br>Topography (1)                                       | There is an error with the GPD Wet Tropospheric correction, the MSS height (solution 1) and tidal corrections for one or more records   |
| CS_OFFL_SIR_GOPR_2_20210207T150658_20210207T151322_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_GOPR_2_20210207T151322_20210207T151447_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_GOPR_2_20210207T164614_20210207T165207_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) and 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_GOPR_2_20210207T165207_20210207T165318_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_GOPR_2_20210207T182844_20210207T182933_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_GOPR_2_20210207T182933_20210207T183246_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_GOPR_2_20210207T200516_20210207T201200_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_GOPR_2_20210207T214705_20210207T215226_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_GOPR_2_20210207T231513_20210207T231712_C001 | Mean Dynamic Topography (1)  | There is an error with the Mean Dynamic Topography (solution 1) for one or more records   |
| CS_OFFL_SIR_GOPR_2_20210207T232612_20210207T233408_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  |

#### 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_GOPM_2_20210207T142917_20210207T143536_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.

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Number of products with errors:

| Product   | Test Failed  | Description  |
|---|--|--|
| CS_OFFL_SIR_GOPM_2_20210207T000155_20210207T000313_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_GOPM_2_20210207T002829_20210207T010257_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_GOPM_2_20210207T010815_20210207T011327_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_GOPM_2_20210207T011511_20210207T013512_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_GOPM_2_20210207T020659_20210207T024048_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_GOPM_2_20210207T024556_20210207T024815_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_GOPM_2_20210207T025430_20210207T032307_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_GOPM_2_20210207T032331_20210207T033059_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. |
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| CS_OFFL_SIR_GOPM_2_20210207T033312_20210207T033458_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_GOPM_2_20210207T034856_20210207T035754_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_GOPM_2_20210207T040415_20210207T041429_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_GOPM_2_20210207T041617_20210207T042019_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_GOPM_2_20210207T042156_20210207T042715_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_GOPM_2_20210207T042734_20210207T042939_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_GOPM_2_20210207T043828_20210207T045052_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_GOPM_2_20210207T045300_20210207T050455_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_GOPM_2_20210207T050737_20210207T050927_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_GOPM_2_20210207T052531_20210207T052544_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_GOPM_2_20210207T053226_20210207T054156_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_GOPM_2_20210207T054358_20210207T055927_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_GOPM_2_20210207T060122_20210207T060617_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_GOPM_2_20210207T061420_20210207T061632_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_GOPM_2_20210207T063339_20210207T063650_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_GOPM_2_20210207T063807_20210207T064035_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_GOPM_2_20210207T072154_20210207T073842_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_GOPM_2_20210207T074109_20210207T074545_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_GOPM_2_20210207T075138_20210207T081704_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_GOPM_2_20210207T085150_20210207T091824_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_GOPM_2_20210207T091941_20210207T092446_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_GOPM_2_20210207T092506_20210207T092831_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_GOPM_2_20210207T093049_20210207T095907_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_GOPM_2_20210207T100033_20210207T100333_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_GOPM_2_20210207T102709_20210207T102922_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.   |
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| CS_OFFL_SIR_GOPM_2_20210207T102929_20210207T105752_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality, OCOG  | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags   |
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|   | Altimeter Range and Backscatter Quality  | and the OCOG Altimeter Range and Backscatter Quality Flags have been   |
| CS_OFFL_SIR_GOPM_2_20210207T105923_20210207T110401_C001 |  | The OCOG Altimeter Range and Backscatter Quality Flags have been set<br>for one or more records.   |
| CS_OFFL_SIR_GOPM_2_20210207T111009_20210207T112915_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_GOPM_2_20210207T114123_20210207T114523_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_GOPM_2_20210207T122417_20210207T122640_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_GOPM_2_20210207T122925_20210207T123214_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_GOPM_2_20210207T123414_20210207T123722_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_GOPM_2_20210207T123907_20210207T124428_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_GOPM_2_20210207T125000_20210207T131239_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_GOPM_2_20210207T131525_20210207T132435_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_GOPM_2_20210207T133703_20210207T134050_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_GOPM_2_20210207T135644_20210207T140131_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_GOPM_2_20210207T140319_20210207T141633_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_GOPM_2_20210207T141929_20210207T142328_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_GOPM_2_20210207T142917_20210207T143536_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_GOPM_2_20210207T143545_20210207T144118_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_GOPM_2_20210207T144343_20210207T150144_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_GOPM_2_20210207T150506_20210207T150509_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_GOPM_2_20210207T152042_20210207T152643_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_GOPM_2_20210207T152751_20210207T155108_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_GOPM_2_20210207T160910_20210207T161605_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_GOPM_2_20210207T161625_20210207T162700_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_GOPM_2_20210207T163140_20210207T163844_C001 |  | 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_GOPM_2_20210207T165439_20210207T165816_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_GOPM_2_20210207T170014_20210207T170323_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_GOPM_2_20210207T170355_20210207T170600_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_GOPM_2_20210207T170727_20210207T171541_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. |
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| CS_OFFL_SIR_GOPM_2_20210207T172200_20210207T173335_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_GOPM_2_20210207T173930_20210207T174150_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_GOPM_2_20210207T174224_20210207T174646_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_GOPM_2_20210207T174825_20210207T175533_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_GOPM_2_20210207T175647_20210207T180329_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_GOPM_2_20210207T180634_20210207T181603_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_GOPM_2_20210207T183955_20210207T184039_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_GOPM_2_20210207T184307_20210207T184513_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_GOPM_2_20210207T184643_20210207T184910_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_GOPM_2_20210207T185833_20210207T191447_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_GOPM_2_20210207T191719_20210207T192555_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_GOPM_2_20210207T192813_20210207T195058_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_GOPM_2_20210207T195908_20210207T195925_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_GOPM_2_20210207T202828_20210207T205407_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_GOPM_2_20210207T205920_20210207T210356_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_GOPM_2_20210207T210636_20210207T211124_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_GOPM_2_20210207T211222_20210207T213356_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_GOPM_2_20210207T220546_20210207T223325_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_GOPM_2_20210207T223603_20210207T223611_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_GOPM_2_20210207T223838_20210207T224432_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_GOPM_2_20210207T224559_20210207T230812_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_GOPM_2_20210207T230830_20210207T231037_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_GOPM_2_20210207T232331_20210207T232423_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_GOPM_2_20210207T233708_20210208T001159_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_GOPN_2_20210207T002633_20210207T002829_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_GOPN_2_20210207T025234_20210207T025342_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_0FFL_SIR_GOPN_2_20210207T114757_20210207T114904_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_GOPN_2_20210207T122641_20210207T122644_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_GOPN_2_20210207T133559_20210207T133632_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_GOPN_2_20210207T173335_20210207T173930_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_GOPN_2_20210207T195647_20210207T195806_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_GOPR_2_20210207T050927_20210207T051027_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_GOPR_2_20210207T051527_20210207T052245_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_GOPR_2_20210207T060617_20210207T060620_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_GOPR_2_20210207T065413_20210207T065612_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_GOPR_2_20210207T071500_20210207T071517_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_GOPR_2_20210207T155444_20210207T155807_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_GOPR_2_20210207T164059_20210207T164108_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.   |

#### 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.

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Number of products with errors:

| Product   | Test Failed   | Description  |
|---|---|--|
| CS_OFFL_SIR_GOPN_2_20210207T000352_20210207T000552_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_GOPN_2_20210207T001258_20210207T001351_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPN_2_20210207T001548_20210207T001636_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_GOPN_2_20210207T002633_20210207T002829_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_GOPN_2_20210207T013512_20210207T013825_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_GOPN_2_20210207T024212_20210207T024556_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_GOPN_2_20210207T033136_20210207T033312_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_GOPN_2_20210207T042939_20210207T043007_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_GOPN_2_20210207T051028_20210207T051527_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_GOPN_2_20210207T052830_20210207T053226_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_GOPN_2_20210207T060808_20210207T061420_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_GOPN_2_20210207T063650_20210207T063807_C001 OCOG Backscatter Quality FLKW,   | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
|--|--|
| CS_OFFL_SIR_GOPN_2_20210207T064520_20210207T064643_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPN_2_20210207T071126_20210207T071357_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPN_2_20210207T073847_20210207T074109_C001 CS_OFFL_SIR_GOPN_2_20210207T074109_C001 CS_OFFL_SIR_GOPN_2_20210207T074109_C001 CS_OFFL_SIR_GOPN_2_20210207T074109_C001 CS_OFFL_SIR_GOPN_2_20210207T074109_C001 CS_OFFL_SIR_GOPN_2_20210207T074109_C001 CS_OFFL_SIR_GOPN_2_20210207T07400 CS_OFFL_SIR_GOPN_2_20210207T07400 CS_OFFL_SIR_GOPN_2_20210207T07400 CS_OFFL_SIR_GOPN_2_20210207T07400 CS_OFFL_SIR_GOPN_2_20210207T07400 CS_OFFL_SIR_GOPN_2_20210207T07400 CS_OFFL_SIR_GOPN_2_20210207T07400 CS_OFFL_SIR_GOPN_2_2021020 CS_OFFL_SIR_GOPN_2_20210 CS_OFFL_SIR_GOPN_2_202 CS_OFFL_S | 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_GOPN_2_20210207T074738_20210207T075052_C001<br>CS_OFFL_SIR_GOPN_2_20210207T074738_20210207T075052_C001<br>Attimeter 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_GOPN_2_20210207T084303_20210207T084402_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPN_2_20210207T084819_20210207T085150_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPN_2_20210207T091825_20210207T091941_C001 Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM   | The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>set for one or more records. |
| CS_OFFL_SIR_GOPN_2_20210207T092831_20210207T092947_C001<br>CS_OFFL_SIR_GOPN_2_20210207T092831_20210207T092947_C001<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_GOPN_2_20210207T100334_20210207T100929_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPN_2_20210207T105800_20210207T105923_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPN_2_20210207T120056_20210207T120218_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_GOPN_2_20210207T120725_20210207T120931_C001<br>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_GOPN_2_20210207T122641_20210207T122644_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPN_2_20210207T123741_20210207T123907_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPN_2_20210207T141724_20210207T141929_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPN_2_20210207T151905_20210207T151953_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPN_2_20210207T155807_20210207T160042_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPN_2_20210207T160235_20210207T160537_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPN_2_20210207T160706_20210207T160901_C001<br>CS_OFFL_SIR_GOPN_2_20210207T160706_20210207T160901_C001<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_GOPN_2_20210207T165318_20210207T165439_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPN_2_20210207T172054_20210207T172200_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_GOPN_2_20210207T173335_20210207T173930_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPN_2_20210207T174646_20210207T174824_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPN_2_20210207T183246_20210207T183458_C001<br>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_GOPN_2_20210207T183620_20210207T183846_C001 OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |

| CS_OFFL_SIR_GOPN_2_20210207T185521_20210207T185833_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
|---|---|--|
| CS_OFFL_SIR_GOPN_2_20210207T192555_20210207T192755_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPN_2_20210207T195239_20210207T195557_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPN_2_20210207T195647_20210207T195806_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |
| CS_OFFL_SIR_GOPN_2_20210207T201200_20210207T201649_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_GOPN_2_20210207T210356_20210207T210614_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_GOPN_2_20210207T223442_20210207T223603_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPN_2_20210207T224432_20210207T224559_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_GOPN_2_20210207T233546_20210207T233708_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPR_2_20210207T000929_20210207T001253_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPR_2_20210207T001636_20210207T002423_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_GOPR_2_20210207T002555_20210207T002629_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPR_2_20210207T014537_20210207T014652_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPR_2_20210207T015652_20210207T020659_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_GOPR_2_20210207T033612_20210207T034327_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_GOPR_2_20210207T043125_20210207T043446_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_GOPR_2_20210207T051527_20210207T052245_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_GOPR_2_20210207T054156_20210207T054358_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPR_2_20210207T061632_20210207T061930_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPR_2_20210207T064035_20210207T064205_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPR_2_20210207T065413_20210207T065612_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_GOPR_2_20210207T065612_20210207T070107_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_GOPR_2_20210207T071520_20210207T071943_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPR_2_20210207T083236_20210207T084107_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_GOPR_2_20210207T084714_20210207T084803_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.  |
| CS_OFFL_SIR_GOPR_2_20210207T092947_20210207T093049_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_GOPR_2_20210207T100929_20210207T101711_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_GOPR_2_20210207T101721_20210207T101831_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_GOPR_2_20210207T101911_20210207T102002_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_GOPR_2_20210207T102013_20210207T102128_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.  |
| CS_OFFL_SIR_GOPR_2_20210207T114653_20210207T114728_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.  |
| CS_OFFL_SIR_GOPR_2_20210207T114904_20210207T115835_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_GOPR_2_20210207T120016_20210207T120056_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.  |
| CS_OFFL_SIR_GOPR_2_20210207T120218_20210207T120234_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.  |
| CS_OFFL_SIR_GOPR_2_20210207T122739_20210207T122925_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_GOPR_2_20210207T132435_20210207T133423_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_GOPR_2_20210207T134135_20210207T134410_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_GOPR_2_20210207T142700_20210207T142917_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_GOPR_2_20210207T150225_20210207T150500_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.  |
| CS_OFFL_SIR_GOPR_2_20210207T150658_20210207T151322_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_GOPR_2_20210207T151322_20210207T151447_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_GOPR_2_20210207T152643_20210207T152751_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_GOPR_2_20210207T164059_20210207T164108_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.   |
| CS_OFFL_SIR_GOPR_2_20210207T164614_20210207T165207_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_GOPR_2_20210207T165207_20210207T165318_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_GOPR_2_20210207T171542_20210207T171755_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.  |
| CS_OFFL_SIR_GOPR_2_20210207T182657_20210207T182742_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_GOPR_2_20210207T183846_20210207T183955_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_GOPR_2_20210207T200435_20210207T200516_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.   |
| CS_OFFL_SIR_GOPR_2_20210207T200516_20210207T201200_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_GOPR_2_20210207T214251_20210207T214408_C001 | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or more records.   |
| CS_OFFL_SIR_GOPR_2_20210207T214705_20210207T215226_C001 | Ocean Altimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality<br>PLRM | set for one of more records.  |
| CS_OFFL_SIR_GOPR_2_20210207T223325_20210207T223442_C001 | Ucean Allimeter Range, SSHA, SWH<br>and Backscatter Quality PLRM, OCOG<br>Altimeter Range and Backscatter Quality         | and the OCCA Altimeter Range, SSHA, SWH and Backscatter Quality Flags<br>and the OCOG Altimeter Range and Backscatter Quality Flags have been<br>uset for one or more records |

| CS_OFFL_SIR_GOPR_2_20210207T232030_20210207T232231_C001   | OCOG Altimeter Range Quality PLRM,<br>OCOG Backscatter Quality  | The OCOG Range and Backscatter Quality Flags have been set for one or<br>more records.   |  |  |  |  |  |  |  |
|---|---|--|--|--|--|--|--|--|--|
| CS_OFFL_SIR_GOPR_2_20210207T232612_20210207T233408_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. |  |  |  |  |  |  |  |
| L2 Quality Flags (1 Hz & 1Hz PLRM)  |   |  |  |  |  |  |  |  |  |
| Currently, there are several common flags raised in the Level 2 products, wh  | ich are summarised below.   |  |  |  |  |  |  |  |  |
| > 1Hz and 1Hz Ocean SSHA Quality Flags: These flags are currently set for proc  | ducts over sea ice, which is to be expected   | l.   |  |  |  |  |  |  |  |
| lumber of products with errors: 197   |   |  |  |  |  |  |  |  |  |
| 5.8 L2 Ocean Retracking Quality Check   |   |  |  |  |  |  |  |  |  |
| L2 Retracking Flags (20Hz)  |   |  |  |  |  |  |  |  |  |
| CryoSat L2 data includes an ocean retracking quality flag for each 20-Hz measure  | ment record. The bit value of this flag indic   | ates any problems when set.  |  |  |  |  |  |  |  |
| Ocean Retracking Quality Flag: This flag is currently set for products over land a  | nd sea ice, but this is to be expected. The   | number of products with this error flag set is given below.  |  |  |  |  |  |  |  |
| Number of products with errors: 67  |   |  |  |  |  |  |  |  |  |
| L2 Retracking Flags (20Hz, PLRM)  |   |  |  |  |  |  |  |  |  |
| CryoSat L2 data includes an ocean retracking quality flag for each 20-Hz PLRM m   | easurement record. The bit value of this fla  | ag indicates any problems when set.  |  |  |  |  |  |  |  |
| Ocean Retracking Quality Flag (PLRM): This flag is currently set for products GO  | OPR and GOPN products over sea ice, but   | this is to be expected.  |  |  |  |  |  |  |  |
| Number of products with errors: 150   |   |  |  |  |  |  |  |  |  |
| 6. GOP L2 I   | Pole-to-Pole Data Quality   | / Check  |  |  |  |  |  |  |  |
| 6.1 P2P Product Format Check  | -   |  |  |  |  |  |  |  |  |
| 6.1 P2P Product Format Check  |   |  |  |  |  |  |  |  |  |
| Each product, retrieved and unpacked from the science server, is checked to ensu  | re it consists of both an XML header file (.  | HDR) and a NetCDF product file (.nc).  |  |  |  |  |  |  |  |
| Number of products with errors: 0   |   |  |  |  |  |  |  |  |  |
| 6.2 P2P Product Header Analysis   |   |  |  |  |  |  |  |  |  |
| For all products, a series of pre-defined checks are performed on the MPH and SP  | 'H in order to identify any inconsistencies a   | and/or errors raised by the ground-segment processing chain.   |  |  |  |  |  |  |  |
| Number of products with errors: 0   |   |  |  |  |  |  |  |  |  |
| 6.3 P2P Auxiliary Data File Usage Check   |   |  |  |  |  |  |  |  |  |
| Each product is checked for missing Data Set Descriptors with respect to a pre-del  | termined baseline and also to check the va  | alidity of Auviliary Data Files is correct   |  |  |  |  |  |  |  |
| Number of products with errors: 0   |   |  |  |  |  |  |  |  |  |
|   |   |  |  |  |  |  |  |  |  |
| 6.4 P2P Auxiliary Correction Error Check  |   |  |  |  |  |  |  |  |  |
| For all products, the auxiliary corrections within the Geophysical Group are checked  |   |  |  |  |  |  |  |  |  |
| Currently, there are some common auxiliary correction errors raised in the L followed by a table highlighting any additional issues which may arise from t                                      |   | e to surface type. All common flags are summarised in the list below,  |  |  |  |  |  |  |  |
| > ECMWF Meteo Corrections: Currently the following corrections are not comput<br>Correction and the U-Wind and V-Wind components of the ECMWF model wind ve<br>not reported in the table below. |   |  |  |  |  |  |  |  |  |
| > Sea State Bias & Sea State Bias PLRM: The error value is currently set for pro  | ducts over sea ice, but this is to be expect  | ed.  |  |  |  |  |  |  |  |
| > Altimetric Wind Speed Error: The error value is currently set for products over   | land and sea ice, but this is to be expected  | d.   |  |  |  |  |  |  |  |
| Number of products with errors: 30  |   |  |  |  |  |  |  |  |  |
| Product   | Test Failed   | Description  |  |  |  |  |  |  |  |
| CS_OFFL_SIR_GOP_220210206T232932_20210207T001911_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_GOP_220210207T001911_20210207T010847_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_GOP_220210207T010847_20210207T015826_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_GOP_220210207T015826_20210207T024802_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_GOP_220210207T024802_20210207T033740_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_GOP_220210207T033740_20210207T042716_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_GOP_220210207T042716_20210207T051655_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_GOP_220210207T051655_20210207T060631_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_GOP_220210207T060631_20210207T065610_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_GOP_2_20210207T065610_20210207T074546_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\_GOP\_2\_\_20210207T074546\_20210207T083525\_C001

Mean Sea Surface (1), Mean Dynamic Topography (1) There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records

| CS_OFFL_SIR_GOP_220210207T083525_20210207T092500_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_GOP_2_20210207T092500_20210207T101439_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_GOP_2_20210207T101439_20210207T110415_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_GOP_2_20210207T110415_20210207T115354_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_GOP_2_20210207T115354_20210207T124330_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_GOP_2_20210207T124330_20210207T133309_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_GOP_2_20210207T133309_20210207T142244_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_GOP_2_20210207T142244_20210207T151223_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_GOP_2_20210207T151223_20210207T160159_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_GOP_2_20210207T160159_20210207T165138_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) and 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_GOP_2_20210207T165138_20210207T174114_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) and 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_GOP_2_20210207T174114_20210207T183053_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_GOP_2_20210207T183053_20210207T192028_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_GOP_2_20210207T192028_20210207T201007_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_GOP_2_20210207T201007_20210207T205943_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_GOP_2_20210207T205943_20210207T214922_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_GOP_2_20210207T214922_20210207T223858_C001 | Mean Sea Surface (1), Mean Dynamic<br>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) and the Mean Dynamic<br>Topography height (solution 1), the Total Geocentric Ocean Tide height<br>(solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height<br>for one or more records |
| CS_OFFL_SIR_GOP_2_20210207T223858_20210207T232837_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_GOP_2_20210207T232837_20210208T001813_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  |

#### 6.5 P2P Measurement Confidence Data Check

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

Number of products with errors: 1 Product Test Failed Description CS\_OFFL\_SIR\_GOP\_2\_20210207T142244\_20210207T151223\_C001 Power scaling error There is an error in the scaling of the L2 waveform for one or more records 6.6 P2P Measurement Quality Flag Check P2P Quality Flags (20Hz) CryoSat P2P data includes Quality Flags for each 20 Hz, 20 Hz PLRM and 1 Hz measurement record, copied from the corresponding L2 products. Since the P2P Quality Flags are copied directly from the L2 Quality Flags, please see Section 5.6 for the full list of products affected. Number of products with errors: 29 P2P Quality Flags (20Hz PLRM) Since the P2P Quality Flags are copied directly from the L2 Quality Flags, please see Section 5.6 for the full list of products affected. Number of products with errors: 29 P2P Quality Flags (1 Hz & 1Hz PLRM) Since the P2P Quality Flags are copied directly from the L2 Quality Flags, please see Section 5.6 for the full list of products affected. Number of products with errors: 30 6.8 P2P Ocean Retracking Quality Check P2P Retracking Flags (20Hz) Cryosat P2P data includes an ocean retracking quality flag (field 19) for each 20-Hz measurement record. The bit value of this flag indicates any problems when set. Ocean Retracking Quality Flag (PLRM): This flag is currently set for products GOPR and GOPN products over sea ice, but this is to be expected. Number of products with errors: 27 P2P Retracking Flags PLRM

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

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

#### 30

# 7. GOP 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_GOPM1B   | 199          | 199             | 3         | 196          | 0          |
| SIR_GOPR1B   | 143          | 143             | 0         | 143          | 0          |
| SIR_GOPN1B   | 108          | 108             | 4         | 104          | 0          |
| SIR_GOPM_2   | 199          | 199             | 135       | 64           | 0          |
| SIR_GOPR_2   | 143          | 143             | 59        | 79           | 5          |
| SIR_GOPN_2   | 108          | 108             | 39        | 69           | 0          |
| SIR_GOP_P2P  | 29           | 29              | 0         | 24           | 5          |

### 7.1 QCC Errors

Number of QCC reports with errors:

| 10 |   |
|----|---|
|    | Total number of occurrences of each error |

| Product Type | RLOBOPNCDF | RL | RLOBOPNCDF | RL | - | - | - | - | - | - | - |
|--------------|------------|----|------------|----|---|---|---|---|---|---|---|
| SIR_GOPR_2   | 5          | 5  | 5          | 5  |   |   |   |   |   |   |   |
|              |            |    |            |    |   |   |   |   |   |   |   |
| Product Type | RLOBOPNCDF | RL | RLOBOPNCDF | RL | - | - | - | - | - | - | - |
| SIR_GOP_2_   | 5          | 5  | 5          | 5  |   |   |   |   |   |   |   |

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

### 7.2 QCC Warnings

| BIR_GOPM1B         196         0         0         0         0         0         0         0           SIR_GOPM_2         0         0         42         43         0         52         0           SIR_GOPM_12         0         0         10         36         2         26         31           SIR_GOPR_11         36         0         0         0         0         0         0         0           SIR_GOPR_2         0         5         22         32         1         26         1           Product Type         RBSCOPCEPNCDF         RNELPOTONCDF         RPEPOPFDLRMCDF         RPEPOPFDLRMSCIR         0<  | Product Type | BCSHNCDF      | IOHHMOOR                              | MVIOEPFDNCDF    | MVIOEPNCDF    | MVIONCDF        | RBSZOPOEPFDNCDF    | RBSZOPOEPFDPLR |
|--|--------------|---------------|---------------------------------------|-----------------|---------------|-----------------|--------------------|----------------|
| SIR_GOPNIB         104         0         0         0         0         0         0         0           SIR_GOPN1B         136         0  | SIR GOPM1B   | 196           | 0                                     | 0               | 0             | 0               | 0                  | 0              |
| SIR_GOPN 2         0         0         36         2         26         31           SIR_GOPR1B         136         0         0         0         0         0         0         0         0           SIR_GOPR2         0         5         22         32         1         26         19           Product Type         RBS20P0EPNCDF         RNELPOTONCDF         RPEPOPFDLRMNCDF         RPEPOPFDLRMSARNCC[RPEPOPFDLRMSINNC](RPEPOPFDBARSARNCC]         RPEPOPFDSARNCDF         RPEPOPFDSARNCDF         RPEPOPFDLRMSINNC](RPEPOPFDLRMSINNC](RPEPOPFDBARSARNCC]         RPEPOPFDSARNCDF         RPEPOPFDLRMSINNC](RPEPOPFDLRMSINNC](RPEPOPFDLRMSINNC](RPEPOPFDLRMSARNCC]         RPEPOPFDSARNCDF         RPEOPSINNC]           SIR_GOPN1B         0         0         0         0         0         0         0           SIR_GOPN1B         0         0         0         0         0         0         0         0         0           SIR_GOPN1B         0 <t< td=""><td>SIR GOPM 2</td><td>0</td><td>0</td><td>42</td><td>43</td><td>0</td><td>52</td><td>0</td></t<>   | SIR GOPM 2   | 0             | 0                                     | 42              | 43            | 0               | 52                 | 0              |
| SiR_GOP.TB         136         0 <t< td=""><td></td><td>104</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></t<>  |              | 104           | 0                                     | 0               | 0             | 0               | 0                  | 0              |
| SIR_GOPR_2         0         5         22         32         1         26         19           Product Type         RBS2OPCEPNCDF         RNELPOTONCDF         RPEPOPFDLRMNCDF         RPEPOPFDLRMSARNCCT         RPEPOPFDDLRMSARNCCT         RPEPOPFDSARNCDF         RPEPOPFDSARNCDF         RPEPOPFDSARNCDF         RPEPOPFDSARNCDF         RPEPOPFDSARNCDF         RPEPOPFDSARNCDF         RPEPOPFDLRMSARNCCT         RPEPOPFDSARNCDF         RPEPOPFDSARNCDF         0   | SIR GOPN 2   | 0             | 0                                     | 10              | 36            | 2               | 26                 | 31             |
| Product Type         RBS20POEPNCDF         RNELPOTONCDF         RPEPOPFDLRMSARCE         RPEPOPFDLRMSARCE         RPEPOPFDLRMSINNCO         REPOPFDSARNCDF         RSSBCONCDF         RSSBCONCDF         RSSHAOFDNCDF         RSSHAOFDNCDF         RSSHAOFDNCDF         RSSHAOFDNCDF         RSSHAOFDNCDF         RSSHAOFDNCDF         RSSHAOFDNCDF         RSSHAOFDNCDF         RSSHAORDF         RSSHAORDF         RSSHAORDF         RSSHAORDF         RSSHAOFDNCDF         RSSHAORDF         RSSHAOFDNCDF         RSSGORGNE         RSSGORGNE | SIR_GOPR1B   | 136           | 0                                     | 0               | 0             | 0               | 0                  | 0              |
| SIR GOP/IB         0   | SIR_GOPR_2   | 0             | 5                                     | 22              | 32            | 1               | 26                 | 19             |
| SR. GOPMB         0  |              |               |                                       |                 |               |                 |                    |                |
| SIR_GOPM_2         41         0         36         0         0         0         0         0           SIR_GOPN_2         18         0         0         0         0         0         0         0           SIR_GOPN_2         18         0         0         0         19         0         40           SIR_GOPN_2         14         3         0         38         0         45         0           Product Type         RPEPOPLRMNCDF         RPEPOPSARNCDF         RPEPOPSINCDF         RSSBCONCDF         RSSHAOFDNCDF         RSSHAONDF           SIR_GOPM_2         14         3         0         0         0         0         0         0         0           SIR_GOPM_2         14         0 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>  |              |               |                                       |                 |               |                 |                    |                |
| SIR_GOPNIB         0         0         0         0         0         0         0         0           SIR_GOPN_2         18         0         0         0         19         0         40           SIR_GOPR_2         14         3         0         38         0         45         0           Product Type         REPOPLRMNCDF         REPOPSARNCDF         REPOPSINNCDF         RSSBCONCDF         RSSHAOFDNCDF         RSSHAOFDPLRMNCDF         RSSHAOFDPLRMNCDF           SIR_GOPM18         0  | _            |               |                                       |                 | 0             | 0               | -                  | -              |
| SIR_GOPN 2         18         0         0         0         19         0         40           SIR_GOPR1B         0   |              |               | · · · · · · · · · · · · · · · · · · · |                 | 0             | e e             | -                  | -              |
| SIR_GOPR1B         0         0         0         0         0         0         0         0           SIR_GOPR2         14         3         0         0         38         0         0         45         0           SIR_GOPR2         14         3         0         0         38         0         0         45         0           Product Type         REPOPLRMNCDF         REPOPSARNCDF         RPEPOPSINNCDF         RSSBCONCDF         RSSHAOFDNCDF         RSSHA  |              |               |                                       | -               | 0             | -               | -                  | -              |
| SIR_GOPR_2         14         3         0         38         0         45         0           Product Type           PREPOPLRMNCDF         RPEPOPSARNCDF         RSBEONCDF         RSSHAOFDNCDF         0 <td></td> <td></td> <td></td> <td>-</td> <td>0</td> <td></td> <td>-</td> <td></td>  |              |               |                                       | -               | 0             |                 | -                  |                |
| Product Type         RPEPOPLRMNCDF         RPEPOPSARNCDF         RPEPOPSINNCDF         RSSBCONCDF         RSSHAOFDNCDF         RSSHAOFDPLRMNCDF         RSSHAOFDPLRMNCDF         RSSHAOFDPLRMNCDF         RSSHAONCDF           SIR_GOPM_2         27         0   | _            |               |                                       |                 | •             | -               |                    | -              |
| SIR_GOPM1B         0         0         0         0         0         0         0         0           SIR_GOPM12         27         0         0         6         26         0         2           SIR_GOPM1B         0         0         0         0         0         0         2           SIR_GOPN1B         0         0         29         16         44         52         29           SIR_GOPR1B         0         0         0         0         0         0         0         0           SIR_GOPR1B         0 <td>SIR_GOPR_2</td> <td>14</td> <td>3</td> <td>0</td> <td>38</td> <td>0</td> <td>45</td> <td>0</td>   | SIR_GOPR_2   | 14            | 3                                     | 0               | 38            | 0               | 45                 | 0              |
| SIR_GOPM1B         0         0         0         0         0         0         0         0           SIR_GOPM_2         27         0         0         6         26         0         2           SIR_GOPM_2         27         0         0         0         0         0         2           SIR_GOPN1B         0         0         0         0         0         0         0         0         0           SIR_GOPN_2         0 <td< td=""><td>Draduat Tuna</td><td></td><td>PPEDODSADNODE</td><td>PPEPOPSINNCDE</td><td>PSSBCONCDE</td><td>PSSHAOEDNODE</td><td></td><td>PSSHAONCDE</td></td<>  | Draduat Tuna |               | PPEDODSADNODE                         | PPEPOPSINNCDE   | PSSBCONCDE    | PSSHAOEDNODE    |                    | PSSHAONCDE     |
| SIR_GOPM_2         27         0         0         6         26         0         2           SIR_GOPN1B         0         0         0         0         0         0         0         0           SIR_GOPN1B         0         0         29         16         44         52         29           SIR_GOPR1B         0         0         0         0         0         0         0           SIR_GOPR12         0         32         0         3         68         35         9           Product Type         RSWHOEPFDNCDF         RSWHOEPFDNCDF         RSWHOEPFDNCDF         RWTONCDF         SPHRTASCNSNCDF         SOOHHIFHD         SCSTODHRNCDF           SIR_GOPM1B         0 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>  |              |               |                                       |                 |               |                 |                    |                |
| SIR_GOPN1B         0         0         0         0         0         0         0         0           SIR_GOPN_2         0         0         29         16         44         52         29           SIR_GOPR1B         0         0         0         0         0         0         0         0           SIR_GOPR2         0         32         0         3         68         35         9           Product Type         RSWHOEPFDNCDF         RSWHOEPFDPLRMNCDF         RSWHOEPPNCDF         RWTCONCDF         SPHRTASCNSNCDF         SOOHHIFHD         SCSTOHRNCDF           SIR_GOPM_2         36         0         1         0  | _            |               |                                       |                 | 6             |                 |                    |                |
| SIR_GOPN_2         0         0         29         16         44         52         29           SIR_GOPR1B         0 <td></td> <td></td> <td>-</td> <td>-</td> <td>0</td> <td></td> <td>-</td> <td></td>   |              |               | -                                     | -               | 0             |                 | -                  |                |
| SIR_GOPR1B         0         0         0         0         0         0         0         0           SIR_GOPR_2         0         32         0         3         68         35         9           Product Type         RSWHOEPFDNCDF         RSWHOEPFDPLRMNCDF         RWTCONCDF         SPHRTASCNSNCDF         SOOHHIFHD         SCSTODHRNCDF           Product Type         RSWHOEPFDNCDF         RSWHOEPPCDF         RWTCONCDF         SPHRTASCNSNCDF         SOOHHIFHD         SCSTODHRNCDF           SIR_GOPM1B         0  | -            |               |                                       |                 | 16            | -               |                    | °              |
| SIR_GOPR_2         0         32         0         3         68         35         9           Product Type         RSWHOEPFDNCDF         RSWHOEPFDPLRMNCDF         RSWHOEPPCDF         RWTCONCDF         SPHRTASCNSNCDF         SOOHHIFHD         SCSTODHRNCDF           SIR_GOPM_2         36         0   |              |               |                                       |                 |               |                 |                    |                |
| Product Type         RSWHOEPFDNCDF         RSWHOEPFDPLRMNCDF         RSWHOEPNCDF         RWTCONCDF         SPHRTASCNSNCDF         SOOHHIFHD         SCSTODHRNCDF           SIR_GOPM1B         0  | _            |               |                                       |                 | -             |                 |                    |                |
| Notice Type         IOHHMOOR         0         1         0         0         1         0         1         0         1         0         1         0         0         1         0         0         1         0         0         1         0         0         1         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0   |              |               | -                                     | -               | -             |                 |                    | -              |
| SIR_GOPM_2         36         0         1         0         0         0         0         0           SIR_GOPN1B         0         0         0         0         0         0         47           SIR_GOPN2         28         32         17         1         0         1         0           SIR_GOPN1B         0         0         0         0         1         0         1         0           SIR_GOPN2         28         32         17         1         0         1         0         0           SIR_GOPN2         28         32         17         1         0         0         143         0         143           SIR_GOPR2         32         42         1         0         1         9         0  |              | RSWHOEPFDNCDF | RSWHOEPFDPLRMNCDF                     | RSWHOEPNCDF     | RWTCONCDF     | SPHRTASCNSNCDF  | SOOHHIFHD          | SCSTODHRNCDF   |
| SIR_GOPN1B         0         0         0         0         0         47           SIR_GOPN2         28         32         17         1         0         1         0           SIR_GOPN1B         0         0         0         0         0         1         0           SIR_GOPR1B         0         0         0         0         0         0         143         0           SIR_GOPR2         32         42         1         0         1         9         0         0   |              |               |                                       | 0               | 0             | 0               | 0                  | 0              |
| SIR_GOPN_2         28         32         17         1         0         1         0           SIR_GOPR1B         0         0         0         0         0         0         143           SIR_GOPR2         32         42         1         0         1         9         0           Product Type         IOHHMOOR         MVIOEPFDNCDF         MVIOEPRCDF         MVIONCDF         RBSZOPOEPFDNCDF         RBSZOPOEPFDPLRMNCT RBSZOPOEPNCDF           SIR_GOP_2_         18         26         29         3         29         18         29           Product Type         RNELPOTONCDF         RPEPOPFDPLRMSINCD/ RPEPOPFDSINNCDF         RPEPOPSINNCDF         RSSBCONCDF         RSSHAOFDNCDF         RSSHAOFDPLRMIN           SIR_GOP_2_         3         15         27         22         17         29         20           Froduct Type         RSSHAONCDF         RSWHOEPFCDNCDF         RSWHOEPFNCDF         RWTCONCDF         SPHLPQWNCDF         -   | SIR_GOPM_2   |               |                                       | 1               | 0             | 0               | 0                  | 0              |
| SIR_GOPR1B         0         0         0         0         0         143           SIR_GOPR_2         32         42         1         0         1         9         0           Froduct Type         IOHIMOOR         MVIOEPFDNCDF         MVIOEPNCDF         MVIONCDF         RBSZOPOEPFDNCDF         RSSHAOFDNCDF         RSSHAOFDNCD  | SIR_GOPN1B   | 0             |                                       | 0               | 0             | 0               | 0                  | 47             |
| SIR_GOPR_2         32         42         1         0         1         9         0           Product Type         IOHHMOOR         MVIOEPFDNCDF         MVIOEPNCDF         MVIONCDF         RBSZOPOEPFDNCDF         RBSZOPOEPFDPLRMNCC RBSZOPOEPNCDF           SIR_GOP_2_         18         26         29         3         29         18         29           Product Type         RNELPOTONCDF         RPEPOPFDPLRMSINNCD/ RPEPOPFDSINNCDF         RPEPOPSINNCDF         RSSBCONCDF         RSSHAOFDNCDF         RSSHAOFDPLRMIN           SIR_GOP_2_         3         15         27         22         17         29         20           Product Type         RSSHAONCDF         RSWHOEPFDPLRMNCDF RSWHOEPFDPLRMNCDF         RSWHOEPFDDLCDF         RWTCONCDF         SPHLPQWNCDF         -   | SIR_GOPN_2   |               | 32                                    | 17              | 1             | 0               | 1                  | 0              |
| Product Type       IOHHMOOR       MVIOEPFDNCDF       MVIOEPNCDF       MVIONCDF       RBSZOPOEPFDNCDF       RBSZOPOEPFDPLRMNCI RBSZOPOEPNCDI         SIR_GOP_2_       18       26       29       3       29       18       29         Product Type       RNELPOTONCDF       RPEPOPFDPLRMSINNCD[RPEPOPFDSINNCDF       RPEPOPSINNCDF       RSSBCONCDF       RSSHAOFDNCDF   | SIR_GOPR1B   | 0             |                                       | 0               | 0             | 0               | 0                  | 143            |
| SIR_GOP_2         18         26         29         3         29         18         29           Product Type         RNELPOTONCDF         RPEPOPFDPLRMSINNCD(RPEPOPFDSINNCDF         RPEPOPSINNCDF         RSSBCONCDF         RSSHAOFDNCDF                                | SIR_GOPR_2   | 32            | 42                                    | 1               | 0             | 1               | 9                  | 0              |
| SIR_GOP_2         18         26         29         3         29         18         29           Product Type         RNELPOTONCDF         RPEPOPFDPLRMSINNCD[RPEPOPFDSINNCDF         RPEPOPSINNCDF         RSSBCONCDF         RSSHAOFDNCDF                                | Product Type | IOHHMOOR      | MVIOEPEDNCDE                          | MVIOEPNCDE      | MVIONCDE      | RBSZOPOEPEDNCDE | RBSZOPOEPEDPI RMNO |                |
| Product Type       RNELPOTONCDF       RPEPOPFDPLRMSINNCDI RPEPOPFDSINNCDF       RPEPOPSINNCDF       RSSBCONCDF       RSSBAOFDNCDF       RSSBAOFDNCDF         SIR_GOP_2       3       15       27       22       17       29       20         Product Type       RSSHAONCDF       RSWHOEPFDPLRMNCDF RSWHOEPFDPLRMNCDF       RWTCONCDF       SPHLPQWNCDF       -   |              |               |                                       |                 |               |                 |                    |                |
| SIR_GOP_2         3         15         27         22         17         29         20           Product Type         RSSHAONCDF         RSWHOEPFDNCDF         RSWHOEPFDPLRMNCDF         RWTCONCDF         SPHLPQWNCDF         -  |              | 10            | 20                                    | 20              | 0             | 20              | 10                 | 20             |
| Product Type RSSHAONCDF RSWHOEPFDNCDF RSWHOEPFDPLRMNCDF RSWHOEPNCDF -  | Product Type | RNELPOTONCDF  | RPEPOPFDPLRMSINNCD                    | RPEPOPFDSINNCDF | RPEPOPSINNCDF | RSSBCONCDF      | RSSHAOFDNCDF       | RSSHAOFDPLRMNC |
|  | SIR_GOP_2_   | 3             | 15                                    | 27              | 22            | 17              | 29                 | 20             |
|  | Product Type | RSSHAONCDE    | RSWHOEPEDNCDE                         |                 | RSWHOEPNODE   | RWTCONCDE       |                    | -              |
| SIR GOP 2 22 29 18 15 1 29   |              | 22            | 29                                    | 18              |               | 1               |                    |                |

| Test Description Key:   |   |   |
|-------------------------|---|---|
| Abbreviation            | Test name   | Details   |
| BCSHNCDF                | BurstCounterStep20HzNetCDF                                  | The burst counter should be one higher with regard to the previous burst counter  |
| IOHHMOOR                | IndexOf1Hzin20HzMappingOutOfRange                           | The mapping of 20 Hz to 1 Hz measurements should be in the range 0 to (number of 1 Hz samples - 1)  |
| MVIOEPFDNCDF            | MissingValueIntOceanExcludingPolarFD2NetCDF                 | The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees                                  |
| MVIOEPNCDF              | MissingValueIntOceanExcludingPolarNetCDF                    | The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees                                  |
| MVIONCDF                | MissingValueIntOceanNetCDF                                  | The value should not be a 'missing value' for surface type 0 only   |
| RBSZOPOEPFDNCDF         | RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2NetCDF     | The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes<br>between -70 and 70 degrees |
| RBSZOPOEPFDPLRM<br>NCDF | RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2PLRMNetCDF | The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees    |
| RBSZOPOEPNCDF           | RangeBackscatterSigmaZeroOPOceanExcludingPolarNetCDF        | The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees    |
|                         | RangeNELPOceanTideOceanNetCDF                               | The Non-equilibrium long period ocean loading tide height should be between -40mm and 40mm (or missing) for surface type = ocean            |
| RPEPOPFDLRMNCDF         | RangePeakinessExcludingPolarOPFD2LRMNetCDF                  | The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70<br>and 70 degrees                |
| RPEPOPFDPLRMSAR<br>NCDF | RangePeakinessExcludingPolarOPFD2PLRMSARNetCDF              | The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees                  |

| RPEPOPFDPLRMSINN<br>CDF | RangePeakinessExcludingPolarOPFD2PLRMSINNetCDF             | The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees                      |
|-------------------------|--|---|
|                         | RangePeakinessExcludingPolarOPFD2SARNetCDF                 | The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70<br>and 70 degrees                   |
| RPEPOPFDSINNCDF         | RangePeakinessExcludingPolarOPFD2SINNetCDF                 | The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70<br>and 70 degrees                   |
| RPEPOPLRMNCDF           | RangePeakinessExcludingPolarOPLRMNetCDF                    | The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70<br>and 70 degrees                    |
| RPEPOPSARNCDF           | RangePeakinessExcludingPolarOPSARNetCDF                    | The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70<br>and 70 degrees                   |
| RPEPOPSINNCDF           | RangePeakinessExcludingPolarOPSINNetCDF                    | The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70<br>and 70 degrees                   |
| RSSBCONCDF              | RangeSeaStateBiasCorrectionOceanNetCDF                     | The sea state bias correction should be between -500mm and 0mm (or missing) for surface type = ocean  |
| RSSHAOFDNCDF            | RangeSeaSurfaceHeightAnomalyOceanFD3NetCDF                 | The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type =<br>ocean                                    |
| RSSHAOFDPLRMNCD         | RangeSeaSurfaceHeightAnomalyOceanFD3PLRMNetCDF             | The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type =<br>ocean                                    |
| RSSHAONCDF              | RangeSeaSurfaceHeightAnomalyOceanNetCDF                    | The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type =<br>ocean                                    |
| RSWHOEPFDNCDF           | RangeSignificantWaveHeightOceanExcludingPolarFD2NetCDF     | The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for<br>latitudes between -70 and 70 degrees |
| RSWHOEPFDPLRMNC<br>DF   | RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF | The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for<br>latitudes between -70 and 70 degrees |
| RSWHOEPNCDF             | RangeSignificantWaveHeightOceanExcludingPolarNetCDF        | The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for<br>latitudes between -70 and 70 degrees |
| RWTCONCDF               | RangeWetTroposphericCorrectionOceanNetCDF                  | #N/A  |
| SPHRTASCNSNCDF          | SPH_Rel_Time_ASC_Node_Stop_v2_NetCDF                       | Rel_Time_ASC_Node_Stop mismatch   |
| SOOHHIFHD               | SameOrOneHigher1HzIndexFor20HzData                         | The 1 Hz index of a 20 Hz sample should be the same or 1 higher than its previous sample  |
| SCSTODHRNCDF            | SequenceCounterStepTODHRNetCDF                             | The sequence counter should be modulo 4 higher with regard to the previous sequence counter   |
| SCSTODNCDF              | SequenceCounterStepTODNetCDF                               | The sequence counter should be one higher (modulo 16384) with regard to the previous sequence counter   |
|                         |  |   |

# 7.3 Missing QCC Reports

Number of products with missing QCC reports:

0