





# 1. Overview

<b>Report Production:</b>	05-May-2023		
Processor Used:	CryoSat Ocean Processor		
Data Used:	Geophysical Ocean Products (GOP) L1B, L2 & P2P Science Data		

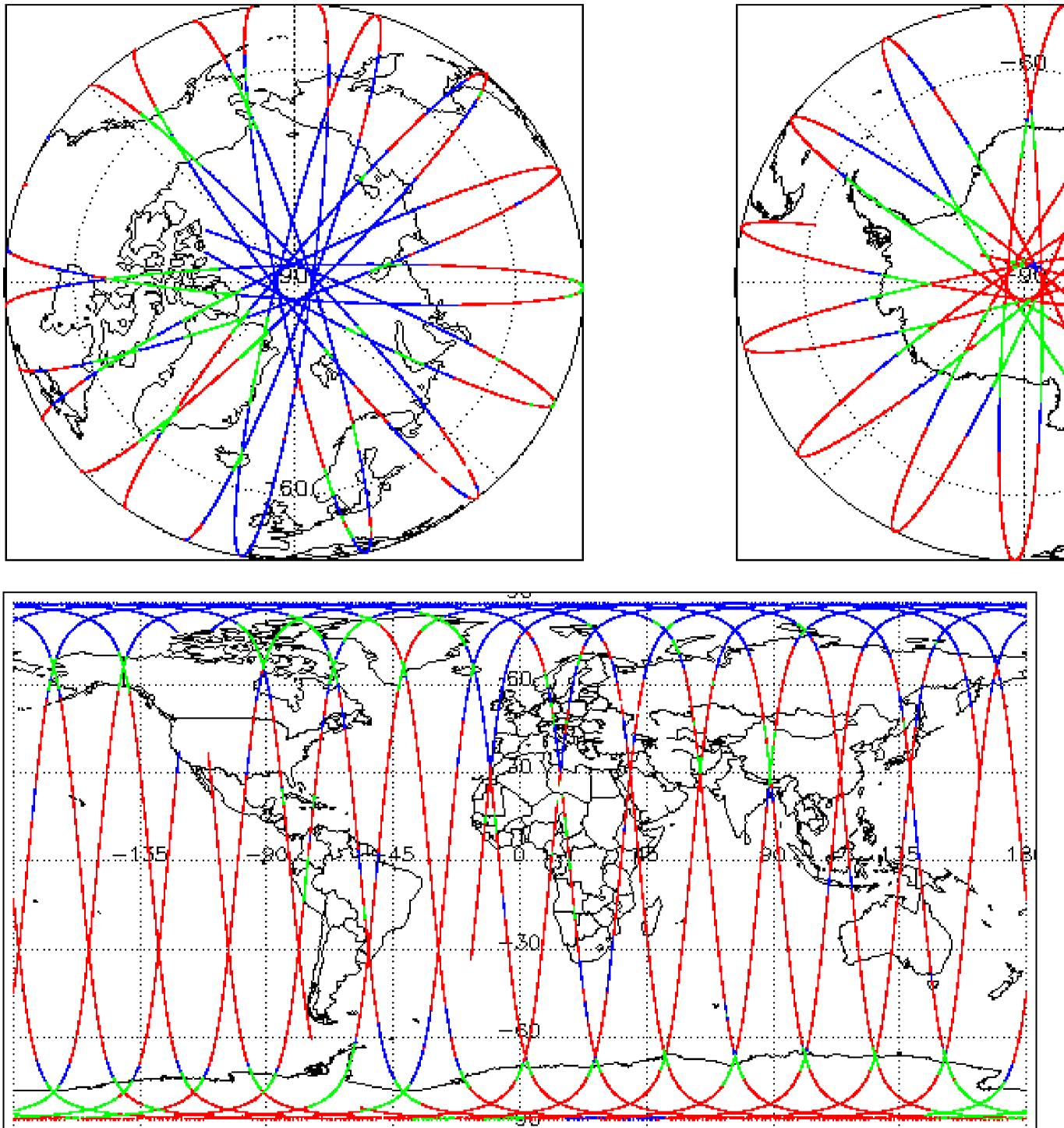
### We would love to hear from you!

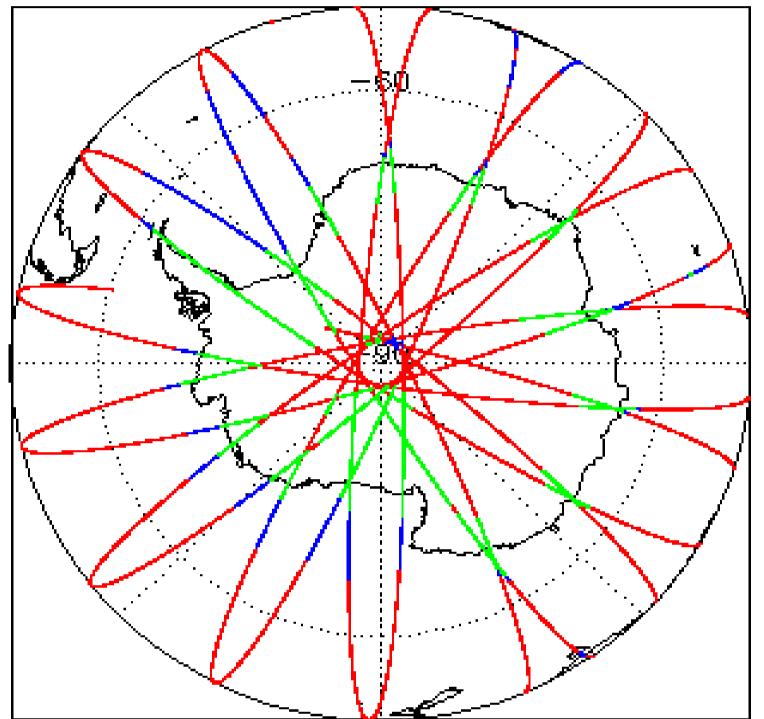
Please let us know your feedback about these daily quality reports: What do you like/ dislike? What quality information do you need? Send your feedback to cs2\_qc\_team@telespazio.com

Check	L1 & L2	P2P
Server check: science-pds.cryosat.esa.int	Nominal	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal	Nominal
Product Software Check	Nominal	Nominal
Product Format Check	Nominal	Nominal
Product Header Analysis	Nominal	Nominal
Auxiliary Data File Usage Check	Nominal	Nominal
Auxiliary Correction Error Check	See Section 5.4	See Section 6.4
Measurement Confidence Data Check	See Section 4.5, 4.6 and 5.5	See Section 6.5
Range, SWH & Backscatter Measurement Check	See Section 5.6	See Section 6.6
Ocean Retracking Quality Check	See Section 5.7	See Section 6.7
QCC Error/ Warning Check	See Section 7.1 and 7.2	See Section 7.1, 7.2 and 7.3

Mission / Instrument News		
31-Mar-2023	None	
01-Apr-2023	None	
02-Apr-2023	Nothing planned	

# 2. Global Coverage









# **3. Instrument Configuration**

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

SIRAL instrument(s) in use:

SIRAL - A

# 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 NetCDF product file (.nc).

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-det	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. Th	ne 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 measurement record. The bit value of this flag indicates any problems when set.			
Attitude Correction Missing: This flag is currently set in error for GOPR products due to a configuration issue. This is being investigated and will be updated in the next SW update.			
Number of products with errors: 1			
Product	Test Failed	Description	
CS_OFFL_SIR_GOPM1B_20230401T094302_20230401T094630_C001	Power scaling error	There is an error in the scaling of the L1B waveform for one or more records	

### 4.6 L1B Waveform Group Data Check

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

Loss of Echo Flag: This flag is currently set for some products over land, but this is to be expected.

Number of products with errors: 13

Loss of Echo	The tracking echo is missing for one or more records
Loss of Echo	The tracking echo is missing for one or more records
Loss of Echo	The tracking echo is missing for one or more records
Loss of Echo	The tracking echo is missing for one or more records
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Loss of Echo	The tracking echo is missing for one or more records
Loss of Echo	The tracking echo is missing for one or more records
	Loss of EchoLoss of EchoLo

# **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 ensure it consists of both an XML header file (.HDR) and a NetCDF product file (.nc).

Number of products with errors:

### **5.2 L2 Product Header Analysis**

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

Number of products with errors:

# **5.3 L2 Auxiliary Data File Usage Check**

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



### **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).

0

0

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

Number of products with errors:

Dist         Bandback (11): Units (2): Example (1): Units (2): Example (1	Product	Test Failed	Description
Description         Description         Description         Description           Display - Lacabon - Lacabon view - Lacabon	CS_OFFL_SIR_GOPM_2_20230401T012032_20230401T012938_C001		
Coloner Structure 2000 mit Structure 2001     Laboration 11     Lab	CS_OFFL_SIR_GOPM_2_20230401T081908_20230401T081917_C001	Mean Dynamic Topography (1)	
CA CPU BE COPY 2 62330-111021 DESCRIPTIONE DATA 2007 CONTROL OF C	CS_OFFL_SIR_GOPN_2_20230401T010221_20230401T010457_C001		
<ul> <li>Control and Control Academic Control and Control and</li></ul>	CS_OFFL_SIR_GOPN_2_20230401T015731_20230401T015851_C001	Topography (1), Total Geocentric Ocean	Topography height (solution 1) and the Total Geocentric Ocean Tide
CCC MTUBER CONCLUSION CONTRACT ACCOUNT (1993)     Langepty (1)     Langepty (1)     Langepty (1)       CCC MTUBER CONCLUSION CONCLUSION (1993)     Mark See Stress (1) Mark Parters     The same and with EXE Projection (1) where the same set in the SEP Stress (1) where the same seti	CS_OFFL_SIR_GOPN_2_20230401T020200_20230401T020426_C001	Mean Dynamic Topography (1)	
000000000000000000000000000000000000	CS_OFFL_SIR_GOPN_2_20230401T023744_20230401T024348_C001		
CIC_DTGR_COPM_2_2020_00TT01016_0_2000         Meet Dynamic Tapograph()         or note 4 exolus           CIS_OPTGR_COPM_2_2020_00TT0100_0_2000         Meet Dynamic Tapograph()         There is a new with the SQD tapotic trut on the time. The Dynamic Tapograph()           CIS_OPTGR_COPM_2_2020_00TT0100_0_2000         Meet Dynamic Tapograph()         There is a new with the SQD tapotic trut on the time. The Dynamic Tapograph()           CIS_OPTGR_COPM_2_2020_00TT0100_0_2000         Meet Dynamic Tapograph()         There is a new with the SQD tapotic trut on the Time. The Dynamic Tapograph()           CIS_OPTGR_COPM_2_2020_00TT0100_0_2000         Meet Dynamic Tapograph()         There is a new with the SQD tapotic trut on the Time. The Dynamic Tapograph()           CIS_OPTGR_COPM_2_2020_00TT0100_0_2000         Meet Dynamic Tapograph()         There is a new with the SQD tapotic trut on the Time Dynamic Tapograph()           CIS_OPTGR_COPM_2_2020_00TT10100_0_2000         Meet Dynamic Tapograph()         There is a new with the SQD tapotic trut on the Time Dynamic Tapograph()           CIS_OPTGR_COPM_2_2020_00TT10100_0_2000         Meet Dynamic Tapograph()         There is a new with the SQD tapotic trut on the time Dynamic Tapograph()           CIS_OPTSR_COPM_2_2020_00TT10100_0_2000         Meet Dynamic Tapograph()         There is a new with the SQD tapotic trut on the time Dynamic Tapograph()           CIS_OPTSR_COPM_2_2020_00TT10100_0_2000         Meet Dynamic Tapograph()         There is a new with the SQD tapotic trut on the time Dynamic Tapograph() </td <td>CS_OFFL_SIR_GOPN_2_20230401T033653_20230401T033907_C001</td> <td></td> <td></td>	CS_OFFL_SIR_GOPN_2_20230401T033653_20230401T033907_C001		
CSL_DEL_CARCENT_L_ACCENT INCOME.         Intel Name Is provided in the Construction of the DSE heads in the Constheads in the Construction of the DSE heads in the C	CS_OFFL_SIR_GOPN_2_20230401T041950_20230401T042139_C001	Mean Dynamic Topography (1)	
Control         Topography (1)         Topography (2)         Topography (2)         Topography (2)           CS, OFE, SR, GOPK, 2, 202060/T102632, 202060/T102622, CODI         Mark Sociation (1), Mark Mark Sociation (1), Mark Mark Mark Mark Mark Mark Mark Mark	CS_OFFL_SIR_GOPN_2_20230401T043008_20230401T043159_C001	Mean Dynamic Topography (1)	
CB, DFL_SR, GDFL 2, 0220200117024252001       Toppgraph (1), Topic december December 10, Topic december December 10, Topic december December 10, Topic december	CS_OFFL_SIR_GOPN_2_20230401T051607_20230401T052058_C001		
CB. OFFL_SIR_GOPN_2_2022040110358_020040110242       Topography (g)       There is an error with the Mass Duranic Topography (g) (c)         CB. OFFL_SIR_GOPN_2_20220401110378_0200401110372_0020401110374_COP       Mean Duranic Topography (g) (c)       There is an error with the Mass Duranic Topography (g) (c) (c) or or or rear errors         CB. OFFL_SIR_GOPN_2_20220401110578_02004011110742_COP       Mean BesStrate (1) Mean Dynamic Topography (g) (c) (c) or or or rear errors       There is an error with the MSS heptil isoution (1) or box or marker errors         CB. OFFL_SIR_GOPN_2_202204011110468_02004011114454       Mean BesStrate (1) Mean Dynamic Topography (g) (c) (c) or or or rear errors       There is an error with the MSS heptil isoution (1) or box or marker errors         CB. OFFL_SIR_GOPN_2_202204011114448_02004011114448_02001       Mean BesStrate (1) Mean Dynamic Topography (g) (c) (c) or or or marker errors       There is an error with the MSS heptil isoution (1) or box or marker errors         CB. OFFL_SIR_GOPN_2_202204011124428_020204011132428_0200111142428_02001       Mean BesStrate (1) Mean Dynamic Topography (i) (c) or or marker errors       There is an error with the MSS heptil isoution (1) or box or marker errors         CB_OFFL_SIR_GOPN_2_202204011142428_020204011132428_020040111324288_02004011132428_0200401113248_0200401 <t< td=""><td>CS_OFFL_SIR_GOPN_2_20230401T074037_20230401T074253_C001</td><td>Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period</td><td>Topography height (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT and solution 2: FES) and the Non-Equilibrium Long Period Ocean</td></t<>	CS_OFFL_SIR_GOPN_2_20230401T074037_20230401T074253_C001	Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period	Topography height (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT and solution 2: FES) and the Non-Equilibrium Long Period Ocean
Cold WH, Silk GOPK, 2 2020401110388, 2020401110061_0001     Mean Dynamic Tippigaphy (1)     or more nooted       CS, DFFL_SIR_GOPK, 2 20204011100612,0001     Mean Ses Surface (1) Mean Dynamic Tippigaphy (solution 1) for the data or with the MSD regist (solution 1) for the excess.     These is an error with the MSD regist (solution 1) for the excess.       CS, DFFL_SIR_GOPK, 2 20204011110618, 20204011110742, C001     Mean Dynamic Tippigaphy (solution 1) for the excess.     These is an error with the MSD regist (solution 1) for the excess.       CS, DFFL_SIR_GOPK, 2 20204011110618, 20204011110742, C001     Mean Ses Surface (1) Mean Dynamic Tippigaphy (solution 1) for the excess.     These is an error with the MSD regist (solution 1) for the excess.       CS, DFFL_SIR_GOPK, 2 202040111124626, 202040111124626, C001     Mean Ses Surface (1) Mean Dynamic Tippigaphy (solution 1) for the MSD regist (solution 1) for one or none records.       CS, DFFL_SIR_GOPK, 2 20204011124626, 20204011124626, C001     Mean Ses Surface (1) Mean Dynamic Tippigaphy (solution 1) for one or none records.       CS, DFFL_SIR_GOPK, 2 20204011124626, 2020401114664, C001     Mean Ses Surface (1) Mean Dynamic Tippigaphy (solution 1) for one or none records.       CS, DFFL_SIR_GOPK, 2 2020401114626, 20204011166980, C001     Mean Ses Surface (1) Mean Dynamic Tippigaphy (solution 1) for one or none records.       CS, DFFL_SIR_GOPK, 2 20204011166282, C001     Mean Ses Surface (1) Mean Dynamic Tippigaphy (solution 1) for one or none records.       CS, DFFL_SIR_GOPK, 2 20204011166984, C001     Mean Dynamic Tippigaphy (solution 1) for one or none records.       CS, DFFL_SIR_GOPK, 2 20204011164028	CS_OFFL_SIR_GOPN_2_20230401T091846_20230401T092201_C001		
Construction         Construction         Topography (1)         Topography (2)         There is an encru with the MSS height (2) (2) (2) (2) (2) (2) (2) (2) (2) (2)	CS_OFFL_SIR_GOPN_2_20230401T101835_20230401T101918_C001	Mean Dynamic Topography (1)	
CS_OFFL_SR_GOPH_2_2023001T10016_2023001T1010742_C001         Keals         Set Barcor (1) Mean Dynamic         There is a nerror with the MSS height (solution 1) and the Mean Dynamic           CS_OFFL_SIR_GOPN_2_20230401T124426_20230401T124605_0001         Mean Ssa Surface (1) Mean Dynamic         There is a nerror with the MSS height (solution 1) and the Mean Dynamic           CS_OFFL_SIR_GOPN_2_20230401T124262_00230401T124263_0001         Mean Ssa Surface (1) Mean Dynamic         There is a nerror with the MSS height (solution 1) and the Mean Dynamic           CS_OFFL_SIR_GOPN_2_20230401T124262_00230401T124263_0001         Mean Ssa Surface (1) Mean Dynamic         There is a nerror with the MSS height (solution 1) and the Mean Dynamic           CS_OFFL_SIR_GOPN_2_20230401T124262_00230401T124263_0001         Mean Ssa Surface (1) Mean Dynamic         There is a nerror with the MSS height (solution 1) and the Mean Dynamic           CS_OFFL_SIR_GOPN_2_20230401T162564_20230401T156564_20230401T156564_20230401T156564_20230401T156564_20230401T156564_20230401T156564_20230401T156564_20230401T156564_20230401T156564_20230401T156564_20230401T156564_20230401T156564_20230401T156564_20230401T156564_20230401T156574_20230401T15656_20230401T15656_20230401T15656_20230401T15656_20230401T15656_20230401T15656_20230401T15656_20230401T15656_20230401T15656_20230401T15656_20230401T15656_20230401T15656_20230401T15656_20230401T15656_20230401T15666_20230401T1566	CS_OFFL_SIR_GOPN_2_20230401T105732_20230401T110051_C001		
CS_OFFL_SIR_GOPN_2_20230401T114646_20230401T114854_C001       Topography (1): Total Gencentric Ocean       Topography hight (solution 1) and the Total Gencentric Ocean         CS_OFFL_SIR_GOPN_2_20230401T124262_20230401T124263_C001       Mann Sas Surface (1). Mean Dynamic       Topography hight (solution 1) for one or more records         CS_OFFL_SIR_GOPN_2_20230401T124263_20230401T132883_C001       Mann Sas Surface (1). Mean Dynamic       Tores is an error with the MSS height (solution 1) and the Mean Dynamic         CS_OFFL_SIR_GOPN_2_20230401T14228_20230401T132883_C001       Mann Sas Surface (1). Mean Dynamic       Topography hight (solution 1) for one or more records         CS_OFFL_SIR_GOPN_2_20230401T14228_20230401T142829_C001       Mean Sas Surface (1). Mean Dynamic       Topography hight (solution 1) for one or more records         CS_OFFL_SIR_GOPN_2_20230401T156264_20230401T166699_C001       Mean Sas Surface (1). Mean Dynamic       Topography hight (solution 1) for one or more records         CS_OFFL_SIR_GOPN_2_20230401T166634_C001       Mean Dynamic Topography (1)       There is an error with the MAS Dynamic Topography (solution 1) for one or more records         CS_OFFL_SIR_GOPN_2_20230401T164238_20230401T164634_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_20230401T164238_20230401T164634_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_20230401T214203_20230401	CS_OFFL_SIR_GOPN_2_20230401T110618_20230401T110742_C001	Mean Dynamic Topography (1)	or more records
Dis DFFL Silk GOPN 2 202040/1112/H46 202340/1112/H00 C001         Topography (1)         Topography height (solution 1) for one or more records           CS_OFFL_SIR_GOPN_2_20230401T13255_20230401T132853_0001         Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records           CS_OFFL_SIR_GOPN_2_20230401T142208_20230401T142420_0001         Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records           CS_OFFL_SIR_GOPN_2_20230401T142208_20230401T15864_20230401T158609_0001         Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records           CS_OFFL_SIR_GOPN_2_20230401T155241_0001         Mean Dynamic Topography (1)         There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)           CS_OFFL_SIR_GOPN_2_20230401T155241_0001         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_20230401T154238_20230401T154634_0001         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_20230401T174203_0230401T174401_0001         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_20230401T213807_20230401T213203_00230401T223205_0001         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_202	CS_OFFL_SIR_GOPN_2_20230401T114646_20230401T114954_C001	Topography (1), Total Geocentric Ocean	Topography height (solution 1) and the Total Geocentric Ocean Tide
CS_OFFL_SIR_GOPN_2_20230401T13205_20230401T132652_20230401T132652       Comparison of the second secon	CS_OFFL_SIR_GOPN_2_20230401T124426_20230401T124605_C001		
CS_OFFL_SIR_GOPN_2_a02304011142480_0001         Topography (1)         Topography (1)         Topography (1)         Topography (1)           CS_OFFL_SIR_GOPN_2_a02304011160554_a0230401116504         Control         Mean Sea Surface (1), Mean Dynamic Topography (1)         There is an error with the MSS height (colution 1) for one or more records           CS_OFFL_SIR_GOPN_2_a02304011165227_a02304011165247_a02304011165444_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_a02304011164238_a02304011164634_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_a02304011174203_a02304011174401_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_a02304011218007_a02304011214028_C001         Mean Dynamic Topography (1)         There is an error with the MSS height (solution 1) for one or more records           CS_OFFL_SIR_GOPN_2_a02304011223039_a02304011223035_C001         Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) the one or more records           CS_OFFL_SIR_GOPN_2_a02304011223015_C001         Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) the one or more records           CS_OFFL_SIR_GOPN_2_a02304011223015_200304017224021_C001         Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) the one or more records           <	CS_OFFL_SIR_GOPN_2_20230401T132755_20230401T132853_C001		
CS_OFFL_SIR_GOPN_2_20230401T150804_20230401T155827_20230401T155824_20230401T155824_20230401T155824_20230401T155824_20230401T155824_20230401T155824_20230401T155824_20230401T155824_20230401T155824_20230401T155824_20230401T156843_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_20230401T15828_20230401T154634_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_20230401T174203_20230401T174401_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_20230401T213807_20230401T214028_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_20230401T223039_20230401T223205_C001       Mean Sea Surface (1), Mean Dynamic Topography (solution 1) and the Mean Dynamic Topography (solution 1) and the Mean Dynamic Topography (solution 1) and the Mean Dynamic Topography (solution 1), tor one or more records         CS_OFFL_SIR_GOPN_2_20230401T223715_20230401T224021_C001       Mean Sea Surface (1), Mean Dynamic Topography height (solution 1), the Mean Dynamic Topography (solution 1) and the Mean Dynamic Topography height (solution 1), the Mean Dynamic Topography (solution 1) and the Mean Dynamic Topography height (solution 1), the Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography height (solution 1), the Mean Dynamic Topography (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records	CS_OFFL_SIR_GOPN_2_20230401T142208_20230401T142420_C001		
CS_OFFL_SIR_GOPN_2_20230401T164238_20230401T164634_C001         Mean Dynamic Topography (1)         or more records           CS_OFFL_SIR_GOPN_2_20230401T164238_20230401T164634_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_20230401T174203_20230401T174401_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_20230401T213007_20230401T214028_C001         Mean Sea Surface (1), Mean Dynamic Topography (solution 1) for one or more records           CS_OFFL_SIR_GOPN_2_20230401T223039_20230401T223025_C001         Mean Sea Surface (1), Mean Dynamic Topography (solution 1) for one or more records           CS_OFFL_SIR_GOPN_2_20230401T223039_20230401T224021_C001         Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records           CS_OFFL_SIR_GOPN_2_20230401T223715_20230401T224021_C001         Mean Sea Surface (1), Mean Dynamic Topography height (solution 1), the Mean Dynamic Topography height (solution 1), the Mean Dynamic Topography (1)           CS_OFFL_SIR_GOPN_2_20230401T001703_C001         Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography (1)           CS_OFFL_SIR_GOPR_2_20230401T001733_20230401T001733_C001         Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography (1)           CS_OFFL_SIR_GOPR_2_20230401T001733_20230401T002308_C001         Mean Sea Surface (1), Mean Dynamic Topography heig	CS_OFFL_SIR_GOPN_2_20230401T150554_20230401T150809_C001		
CS_OFFL_SIR_GOPN_2_202304011164238_202304011174401_C001       Mean Dynamic Topography (1)       or more records         CS_OFFL_SIR_GOPN_2_202304011174203_202304011174401_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_202304011213807_202304011223005_C001       Mean Dynamic Topography (1)       There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)         CS_OFFL_SIR_GOPN_2_202304011223039_202304011223205_C001       Mean Sea Surface (1), Mean Dynamic Topography (1)       There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)         CS_OFFL_SIR_GOPN_2_202304011223715_202304011224021_C001       Mean Sea Surface (1), Mean Dynamic Topography (1)       There is an error with the MSS height (solution 1), the Mean Dynamic Topography (1)         CS_OFFL_SIR_GOPN_2_202304011001104_20230401T02133_C001       Mean Sea Surface (1), Mean Dynamic Topography (1)       There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)         CS_OFFL_SIR_GOPR_2_202304011001104_20230401T001733_C001       Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography (1)       There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)         CS_OFFL_SIR_GOPR_2_20230401T001733_20230401T001733_C001       Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records         CS_OFFL_SIR_GOPR_2_20230401T01733_20230401T00552_C001       Mean Sea Surface (1), Mean Dynamic Topog	CS_OFFL_SIR_GOPN_2_20230401T155227_20230401T155414_C001	Mean Dynamic Topography (1)	
CS_OFFL_SIR_GOPN_2_20230401T174203_20230401T174401_C001       Mean Dynamic Topography (1)       or more records         CS_OFFL_SIR_GOPN_2_20230401T213807_20230401T214028_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_20230401T223039_20230401T223205_C001       Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records         CS_OFFL_SIR_GOPN_2_20230401T223015_C001       Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records         CS_OFFL_SIR_GOPN_2_20230401T223715_20230401T224021_C001       Mean Sea Surface (1), Mean Dynamic Topography height (solution 1), the Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide solution 2: ES) and the Non-Equilibrium Long Period Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide for one or more records         CS_OFFL_SIR_GOPR_2_20230401T001104_20230401T001733_C001       Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records         CS_OFFL_SIR_GOPR_2_20230401T001733_20230401T002308_C001       Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records         CS_OFFL_SIR_GOPR_2_20230401T015015_20230401T015552_C001       Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records         CS_OFFL_SIR_GOPR_2_20230401T015552_20230401T015730_C001       Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records         CS_OFFL_SIR_GOPR_2_20230401T015552_2030401T015730_C001	CS_OFFL_SIR_GOPN_2_20230401T164238_20230401T164634_C001	Mean Dynamic Topography (1)	
CS_OFFL_SIR_GOPN_2_20230401121307_202304011214028_C001       Mean bynamic Topography (1)       or more records         CS_OFFL_SIR_GOPN_2_202304011223039_20230401122305_C001       Mean Sea Surface (1), Mean Dynamic Topography (1)       There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (SOLUTO 1), Total Geocentric Ocean Tide (	CS_OFFL_SIR_GOPN_2_20230401T174203_20230401T174401_C001	Mean Dynamic Topography (1)	
CS_OFFL_SIR_GOPN_2_20230401122304_201224021_C001       Topography (1)       Topography height (solution 1) for one or more records         Mean Sea Surface (1), Mean Dynamic       There is an error with the MSS height (solution 1), the Mean Dynamic         CS_OFFL_SIR_GOPN_2_20230401T223715_20230401T224021_C001       Mean Sea Surface (1), Mean Dynamic         Tide (FES), Non-Equilibrium Long Period       There is an error with the MSS height (solution 1), the Mean Dynamic         CS_OFFL_SIR_GOPR_2_20230401T001104_20230401T001733_C001       Mean Sea Surface (1), Mean Dynamic       There is an error with the MSS height (solution 1) and the Mean Dynamic         CS_OFFL_SIR_GOPR_2_20230401T001703_20230401T002308_C001       Mean Sea Surface (1), Mean Dynamic       There is an error with the MSS height (solution 1) and the Mean Dynamic         CS_OFFL_SIR_GOPR_2_20230401T015015_20230401T015552_C001       Mean Sea Surface (1), Mean Dynamic       There is an error with the MSS height (solution 1) and the Mean Dynamic         CS_OFFL_SIR_GOPR_2_20230401T015015_20230401T015730_C001       Mean Sea Surface (1), Mean Dynamic       There is an error with the MSS height (solution 1) and the Mean Dynamic         CS_OFFL_SIR_GOPR_2_20230401T015552_20230401T015730_C001       Mean Sea Surface (1), Mean Dynamic       There is an error with the MSS height (solution 1) and the Mean Dynamic         CS_OFFL_SIR_GOPR_2_20230401T015552_20230401T015730_C001       Mean Sea Surface (1), Mean Dynamic       There is an error with the MSS height (solution 1) and the Mean Dynamic         CS_OFFL_SIR_GOPR_2_	CS_OFFL_SIR_GOPN_2_20230401T213807_20230401T214028_C001	Mean Dynamic Topography (1)	
CS_OFFL_SIR_GOPN_2_20230401T223715_20230401T224021_C001Topography (1), Total Geocentric Ocean Tide (GDT), Total Geocentric Ocean Tide (GDT and solution 2; FES) and the Non-Equilibrium Long Period Ocean Tide for one or more recordsCS_OFFL_SIR_GOPR_2_20230401T001104_20230401T001733_C001Mean 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 recordsCS_OFFL_SIR_GOPR_2_20230401T001733_20230401T002308_C001Mean 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 recordsCS_OFFL_SIR_GOPR_2_20230401T015015_20230401T015552_C001Mean 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 recordsCS_OFFL_SIR_GOPR_2_20230401T015552_20230401T015730_C001Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more recordsCS_OFFL_SIR_GOPR_2_20230401T015252_20230401T015730_C001Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more recordsCS_OFFL_SIR_GOPR_2_20230401T0121552_20230401T0122208_C001Mean Sea Surface (1), Total Geocentric Topography height (solution 1) for one or more records	CS_OFFL_SIR_GOPN_2_20230401T223039_20230401T223205_C001		
CS_OFFL_SIR_GOPR_2_20230401T00T104_20230401T00T733_C001Topography (1)Topography height (solution 1) for one or more recordsCS_OFFL_SIR_GOPR_2_20230401T001733_20230401T002308_C001Mean 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 recordsCS_OFFL_SIR_GOPR_2_20230401T015015_20230401T015552_C001Mean 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 recordsCS_OFFL_SIR_GOPR_2_20230401T015552_20230401T015552_20230401T015730_C001Mean 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 recordsCS_OFFL_SIR_GOPR_2_20230401T015552_20230401T015730_C001Mean 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 recordsCS_OFFL_SIR_GOPR_2_20230401T021954_20230401T022208_C001Mean Sea Surface (1), Total GeocentricThere is an error with the MSS height (solution 1) and the Total Geocentric	CS_OFFL_SIR_GOPN_2_20230401T223715_20230401T224021_C001	Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period	Topography height (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT and solution 2: FES) and the Non-Equilibrium Long Period Ocean
CS_OFFL_SIR_GOPR_2_202304011001733_202304011002308_C001       Topography (1)       Topography height (solution 1) for one or more records         CS_OFFL_SIR_GOPR_2_20230401T015015_20230401T015552_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_GOPR_2_20230401T015552_20230401T015552_C001       Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records         CS_OFFL_SIR_GOPR_2_20230401T015552_20230401T015730_C001       Mean Sea Surface (1), Mean Dynamic Topography (1)       There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)         CS_OFFL_SIR_GOPR_2_20230401T021954_20230401T022208_C001       Mean Sea Surface (1), Total Geocentric       There is an error with the MSS height (solution 1) and the Total Geocentric	CS_OFFL_SIR_GOPR_2_20230401T001104_20230401T001733_C001		
CS_OFFL_SIR_GOPR_2_202304011015015_202304011015052_C001       Topography (1)       Topography height (solution 1) for one or more records         CS_OFFL_SIR_GOPR_2_20230401T015552_20230401T015730_C001       Mean Sea Surface (1), Mean Dynamic Topography (1)       There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)         CS_OFFL_SIR_GOPR_2_20230401T021954_20230401T022208_C001       Mean Sea Surface (1), Total Geocentric       There is an error with the MSS height (solution 1) and the Total Geocentric	CS_OFFL_SIR_GOPR_2_20230401T001733_20230401T002308_C001		
CS_OFFL_SIR_GOPR_2_202304011015552_202304011015730_C001 Topography (1) Topography height (solution 1) for one or more records Mean Sea Surface (1), Total Geocentric There is an error with the MSS height (solution 1) and the Total Geocentric	CS_OFFL_SIR_GOPR_2_20230401T015015_20230401T015552_C001		
	CS_OFFL_SIR_GOPR_2_20230401T015552_20230401T015730_C001		
	CS_OFFL_SIR_GOPR_2_20230401T021954_20230401T022208_C001		

CS_OFFL_SIR_GOPR_2_20230401T033000_20230401T033052_C001	Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the Mean Dynamic Topography (solution 1) and the Total Geocentric Ocean Tide (solution 1: GOT) for one or more records
CS_OFFL_SIR_GOPR_2_20230401T033234_20230401T033406_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_GOPR_2_20230401T033406_20230401T033653_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_GOPR_2_20230401T034615_20230401T034726_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_GOPR_2_20230401T050945_20230401T051607_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_GOPR_2_20230401T064652_20230401T064816_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_20230401T065119_20230401T065631_C001	Mean Sea Surface (1), Mean Dynamic 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_20230401T081917_20230401T082121_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_20230401T082448_20230401T082647_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_20230401T083022_20230401T083823_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_GOPR_2_20230401T100900_20230401T101744_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_GOPR_2_20230401T114954_20230401T115726_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_GOPR_2_20230401T132853_20230401T133436_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_GOPR_2_20230401T150809_20230401T151144_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_GOPR_2_20230401T151144_20230401T151454_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_GOPR_2_20230401T164634_20230401T165156_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_GOPR_2_20230401T182456_20230401T183500_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_GOPR_2_20230401T200218_20230401T200609_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_GOPR_2_20230401T200609_20230401T200954_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_GOPR_2_20230401T202026_20230401T202103_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_20230401T214108_20230401T214807_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_GOPR_2_20230401T214807_20230401T215114_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_GOPR_2_20230401T232003_20230401T232707_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_GOPR_2_20230401T232707_20230401T232926_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

# **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:1

Product	Test Failed	Description
CS_OFFL_SIR_GOPM_2_20230401T094302_20230401T094630_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records

### L2 Quality Flags (20 Hz)

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

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

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

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

Number of products with errors:85

Product	Test Failed	Description
CS_OFFL_SIR_GOPM_2_20230331T234012_20230401T000619_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T002802_20230401T003054_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T003224_20230401T005522_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T011330_20230401T011953_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T013552_20230401T014038_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T014040_20230401T014325_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T015851_20230401T020200_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T020426_20230401T021954_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T022208_20230401T023706_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T024643_20230401T025102_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T025240_20230401T030741_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T030920_20230401T032514_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T035445_20230401T035723_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T040336_20230401T041911_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T042139_20230401T043008_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T043211_20230401T045510_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T050324_20230401T050327_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T053055_20230401T055824_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T060333_20230401T060818_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T061108_20230401T061354_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T061527_20230401T063725_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T064149_20230401T064518_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T070957_20230401T073733_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T074253_20230401T074849_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T075017_20230401T081151_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T081153_20230401T081346_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records

CS_OFFL_SIR_GOPM_2_20230401T082647_20230401T082845_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T084131_20230401T091634_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T092201_20230401T092721_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T092852_20230401T093218_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T100055_20230401T100117_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T100500_20230401T100741_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T102129_20230401T103003_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T103248_20230401T105554_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T110211_20230401T110618_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T110752_20230401T112123_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T112310_20230401T112917_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T113100_20230401T113544_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T115804_20230401T115809_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T120021_20230401T123352_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T123557_20230401T124103_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T124711_20230401T124908_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T125203_20230401T132242_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T133758_20230401T133843_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T134233_20230401T135047_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T135116_20230401T141314_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T141455_20230401T142002_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records

CS_OFFL_SIR_GOPM_2_20230401T142040_20230401T142208_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T142942_20230401T143940_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T144559_20230401T145730_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T152336_20230401T153548_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T153727_20230401T155216_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records

CS_OFFL_SIR_GOPM_2_20230401T155414_20230401T155914_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T155939_20230401T155948_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T160732_20230401T162937_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T163103_20230401T163923_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T170829_20230401T173144_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T173455_20230401T173832_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T173854_20230401T174203_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T174434_20230401T181112_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T184443_20230401T191103_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T191238_20230401T191747_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T192359_20230401T195832_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T202117_20230401T202856_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T204428_20230401T205101_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T205238_20230401T205821_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T210321_20230401T213725_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T215706_20230401T215821_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T221051_20230401T223031_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T223205_20230401T223715_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T224231_20230401T231712_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T232926_20230401T232947_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPM_2_20230401T234150_20230401T234629_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records

CS_OFFL_SIR_GOPM_2_20230401T234707_20230402T000520_C001	<b>G 1</b>	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPN_2_20230401T065054_20230401T065119_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
U.S. (JEEL SIR GOPN 7 707304011095956 707304011100034 C.001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPN_2_20230401T101957_20230401T102040_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPN_2_20230401T142208_20230401T142420_C001	C · · · · ·	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records

CS_OFFL_SIR_GOPN_2_20230401T215209_20230401T215305_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPR_2_20230401T001733_20230401T002308_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPR_2_20230401T081917_20230401T082121_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records

# L2 Quality Flags (20 Hz PLRM)

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

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

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

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_GOPN_2_20230401T002308_20230401T002357_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPN_2_20230401T010221_20230401T010457_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPN_2_20230401T010650_20230401T011022_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_20230401T011045_20230401T011317_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPN_2_20230401T015731_20230401T015851_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_20230401T020200_20230401T020426_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_20230401T025102_20230401T025240_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPN_2_20230401T033154_20230401T033234_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPN_2_20230401T033653_20230401T033907_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_20230401T034055_20230401T034307_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPN_2_20230401T035923_20230401T040336_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_20230401T045650_20230401T050022_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_20230401T051607_20230401T052058_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPN_2_20230401T060818_20230401T061032_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_20230401T063725_20230401T063841_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_20230401T064816_20230401T064927_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPN_2_20230401T073854_20230401T074015_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPN_2_20230401T083002_20230401T083022_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPN_2_20230401T083823_20230401T083943_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_20230401T091846_20230401T092201_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records

OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records
Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been
	OCOG Backscatter Quality           OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality           Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM           Ocean Altimeter Range Quality PLRM, OCOG Backscatter Quality           OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality           OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality           OCOG Altimeter Range, SSHA, SWH and Backscatter Quality           Decean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM           Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM           Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM           Ocoan Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM           Ocoan Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM           Ocoan Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM           Ocoan Altimeter Range Quality PLRM, OCOG Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM           Ocoan Altimeter Range Quality PLRM, OCOG Backscatter Quality PLRM           OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality PLRM           OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality PLRM      <

	Ocean Altimeter Range, SSHA, SWH	
CS_OFFL_SIR_GOPR_2_20230401T021954_20230401T022208_C001	and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPR_2_20230401T032523_20230401T032551_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_GOPR_2_20230401T033234_20230401T033406_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPR_2_20230401T033406_20230401T033653_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPR_2_20230401T033907_20230401T034055_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPR_2_20230401T034307_20230401T034420_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_GOPR_2_20230401T034615_20230401T034726_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_GOPR_2_20230401T035723_20230401T035754_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_GOPR_2_20230401T050945_20230401T051607_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPR_2_20230401T052840_20230401T053055_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_GOPR_2_20230401T064927_20230401T065054_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPR_2_20230401T065119_20230401T065631_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPR_2_20230401T081917_20230401T082121_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_GOPR_2_20230401T082448_20230401T082647_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_GOPR_2_20230401T083022_20230401T083823_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPR_2_20230401T100201_20230401T100333_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_GOPR_2_20230401T100900_20230401T101744_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPR_2_20230401T105554_20230401T105732_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPR_2_20230401T114954_20230401T115726_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_GOPR_2_20230401T133843_20230401T134233_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPR_2_20230401T142002_20230401T142009_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_GOPR_2_20230401T142420_20230401T142942_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPR_2_20230401T144346_20230401T144559_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_GOPR_2_20230401T150444_20230401T150554_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPR_2_20230401T151144_20230401T151454_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPR_2_20230401T164634_20230401T165156_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records

CS_OFFL_SIR_GOPR_2_20230401T165228_20230401T165323_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_GOPR_2_20230401T182456_20230401T183500_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPR_2_20230401T200218_20230401T200609_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPR_2_20230401T200609_20230401T200954_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPR_2_20230401T201020_20230401T201507_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPR_2_20230401T214807_20230401T215114_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPR_2_20230401T215319_20230401T215706_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_GOPR_2_20230401T215939_20230401T220258_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_GOPR_2_20230401T224021_20230401T224231_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPR_2_20230401T231712_20230401T231807_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_GOPR_2_20230401T232003_20230401T232707_C001		The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPR_2_20230401T232707_20230401T232926_C001	LAITIMETER Rande and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records
CS_OFFL_SIR_GOPR_2_20230401T233135_20230401T234150_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records

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

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

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

Number of products with errors: 189

# 5.8 L2 Ocean Retracking Quality Check

L2 Retracking Flags (20 Hz)	
CryoSat L2 data includes an ocean retracking quality	flag for each 20 Hz measurement record. The bit value of this flag indicates any problems when set.
Ocean Retracking Quality Flag: This flag is current	y set for products over land and sea ice, but this is to be expected. The number of products with this error flag set is given below.
Number of products with errors:	67
L2 Retracking Flags (20 Hz PLRM)	
CryoSat L2 data includes an ocean retracking quality	flag for each 20 Hz PLRM measurement record. The bit value of this flag indicates any problems when set.
Ocean Retracking Quality Flag (PLRM): This flag is	s currently set for products GOPR and GOPN products over sea ice, but this is to be expected.
Number of products with errors:	141

# 6. GOP L2 Pole-to-Pole Data Quality Check

# 6.1 P2P Product Format Check

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

# 6.2 P2P Product Header Analysis

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

Number of products with errors:

0

# 6.3 P2P Auxiliary Data File Usage Check

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

Number of products with errors:

0

# 6.4 P2P Auxiliary Correction Error Check

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

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

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

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

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

Number of products with errors:

Test Failed	Description
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
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
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
Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
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
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
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
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
Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1), the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
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
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
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
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
Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
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
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
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
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
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
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
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
	Topography (1)Mean Sea Surface (1), Mean Dynamic Topography (1)Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)Mean Sea Surface (1), Mean Dynamic Topography (1)Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (GOT)Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)Mean Sea Surface (1), Mean Dynamic Topography (1)Mean Sea Surface (1), Mean Dynamic Topography (1)Mean Sea Surface (1), Mean Dynamic Topography (1)Mean Sea Surface (

CS_OFFL_SIR_GOP_220230401T173837_20230401T182813_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_2_20230401T182813_20230401T191752_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_2_20230401T191752_20230401T200728_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_2_20230401T200728_20230401T205707_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_220230401T205707_20230401T214642_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_220230401T214642_20230401T223621_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_220230401T223621_20230401T232557_C001	Tido (GOT) Total Geocentric Ocean	There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1), the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_GOP_2_20230401T232557_20230402T001536_C002	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

# 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.

1

30

28

30

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_GOP_220230401T092224_20230401T101200_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 (20 Hz)

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

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

Number of products with errors:

#### P2P Quality Flags (20 Hz PLRM)

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

Number of products with errors:

#### P2P Quality Flags (1 Hz & 1 Hz PLRM)

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

Number of products with errors:

# 6.8 P2P Ocean Retracking Quality Check

P2P Retracking Flags (20 Hz)	
Cryosat P2P data includes an ocean retracking quality	flag (field 19) for each 20 Hz measurement record. The bit value of this flag indicates any problems when set.
Ocean Retracking Quality Flag (PLRM): This flag is	currently set for products GOPR and GOPN products over sea ice, but this is to be expected.
Number of products with errors:	29
P2P Retracking Flags PLRM	
CryoSat L2 data includes an ocean retracking quality f	lag 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.
Number of products with errors:	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	180	180	4	176	0
SIR_GOPR1B	139	139	0	139	0
SIR_GOPN1B	99	99	5	94	0
SIR_GOPM_2	180	180	126	54	0
SIR_GOPR_2	139	139	56	82	1
SIR_GOPN_2	99	99	39	59	1
SIR_GOP_P2P	29	29	0	27	2

### 7.1 QCC Errors

	reports with er	015.	4		Tatal mumber						
Total number of occurrences of each error											
Product Type	RLOBOPNCDF	RL	RLOBOPNCDF	RL	-	-	-	-	-	-	-
SIR_GOPN_2	1	1	1	1							
Product Type	RLOBOPNCDF	RL	RLOBOPNCDF	RL	-	-	-	-	-	-	-
SIR_GOP_2_	2	2	2	2							

**Test Description Key:** 

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

# 7.2 QCC Warnings

Number of QCC reports with warnings



#### Total number of occurrences of each warning

Product Type	BCSHNCDF	IOHHMOOR	MVIOEPFDNCDF	MVIOEPNCDF	MVIONCDF	RBSZOPOEPFDNCDF	RBSZOPOEPFDPLRMNCD
SIR_GOPM1B	176	0	0	0	0	0	0
SIR_GOPM_2	0	0	41	41	0	38	0
SIR_GOPN1B	94	0	0	0	0	0	0
SIR_GOPN_2	0	1	8	30	4	30	30
SIR_GOPR1B	133	0	0	0	0	0	0
SIR_GOPR_2	0	1	20	40	2	31	18

Product Type	RBSZOPOEPNCDF	RNELPOTONCDF	RPEPOPFDLRMNCDF	RPEPOPFDPLRMSARNC	RPEPOPFDPLRMSINNCD	RPEPOPFDSARNCDF	RPEPOPFDSINNCDF
SIR_GOPM1B	0	0	0	0	0	0	0
SIR_GOPM_2	31	0	37	0	0	0	0
SIR_GOPN1B	0	0	0	0	0	0	0
SIR_GOPN_2	18	0	0	0	20	0	32
SIR_GOPR1B	0	0	0	0	0	0	0
SIR_GOPR_2	4	2	0	41	0	53	0

Product Type	RPEPOPLRMNCDF	RPEPOPSARNCDF	RPEPOPSINNCDF	RSSBCONCDF	RSSHAOFDNCDF	RSSHAOFDPLRMNCDF	RSSHAONCDF
SIR_GOPM1B	0	0	0	0	0	0	0
SIR_GOPM_2	29	0	0	3	32	0	2
SIR_GOPN1B	0	0	0	0	0	0	0
SIR_GOPN_2	0	0	25	15	37	51	30
SIR_GOPR1B	0	0	0	0	0	0	0
SIR_GOPR_2	0	39	0	0	57	29	11

Product Type	RSWHOEPFDNCDF	RSWHOEPFDPLRMNCDF	RSWHOEPNCDF	SPHRTASCNSNCDF	SOOHHIFHD	SCSTODHRNCDF	SCSTODNCDF
SIR_GOPM1B	0	0	0	1	0	0	0
SIR_GOPM_2	34	0	2	1	0	0	0
SIR_GOPN1B	0	0	0	0	0	41	0
SIR_GOPN_2	28	27	13	0	1	0	0
SIR_GOPR1B	0	0	0	0	0	139	11
SIR_GOPR_2	28	41	0	0	5	0	0

Product Type	IOHHMOOR	MVIOEPFDNCDF	MVIOEPNCDF	MVIONCDF	RBSZOPOEPFDNCDF	RBSZOPOEPFDPLRMNCD	RBSZOPOEPNCDF
SIR_GOP_2_	17	28	27	5	29	16	26

Product Type	RNELPOTONCDF	RPEPOPFDPLRMSINNCD	RPEPOPFDSINNCDF	RPEPOPSINNCDF	RSSBCONCDF	RSSHAOFDNCDF	RSSHAOFDPLRMNCDF
SIR_GOP_2_	2	16	26	19	15	29	16

Product Type	RSSHAONCDF	RSWHOEPFDNCDF	RSWHOEPFDPLRMNCDF	RSWHOEPNCDF	SPHLPQWNCDF	-	-
SIR_GOP_2_	22	29	17	14	29		

Test Description Key:		
Abbreviation	Test name	Details
BCSHNCDF	BurstCounterStep20HzNetCDF	The burst counter should be one higher with regard to the previous burst counter
IOHHMOOR	IndexOf1Hzin20HzMappingOutOfRange	The mapping of 20 Hz to 1 Hz measurements should be in the range 0 to (number of 1 Hz samples - 1)
MVIOEPFDNCDF	MissingValueIntOceanExcludingPolarFD2NetCDF	The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees
MVIOEPNCDF	MissingValueIntOceanExcludingPolarNetCDF	The value should not be a 'missing value' for surface type 0 only for latitudes between -70 and 70 degrees
MVIONCDF	MissingValueIntOceanNetCDF	The value should not be a 'missing value' for surface type 0 only
RBSZOPOEPFDNCDF	RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2NetCDF	The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RBSZOPOEPFDPLRM NCDF	RangeBackscatterSigmaZeroOPOceanExcludingPolarFD2PLRMNetCDF	The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RBSZOPOEPNCDF	RangeBackscatterSigmaZeroOPOceanExcludingPolarNetCDF	The backscatter sigma zero should be between 700 and 7500 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RNELPOTONCDF	RangeNELPOceanTideOceanNetCDF	The Non-equilibrium long period ocean loading tide height should be between -40mm and 40mm (or missing) for surface type = ocean
RPEPOPFDLRMNCDF	RangePeakinessExcludingPolarOPFD2LRMNetCDF	The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RPEPOPFDPLRMSAR NCDF	RangePeakinessExcludingPolarOPFD2PLRMSARNetCDF	The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RPEPOPFDPLRMSINN CDF	RangePeakinessExcludingPolarOPFD2PLRMSINNetCDF	The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RPEPOPFDSARNCDF	RangePeakinessExcludingPolarOPFD2SARNetCDF	The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RPEPOPFDSINNCDF	RangePeakinessExcludingPolarOPFD2SINNetCDF	The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RPEPOPLRMNCDF	RangePeakinessExcludingPolarOPLRMNetCDF	The Peakiness should be between 0 and 6400 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RPEPOPSARNCDF	RangePeakinessExcludingPolarOPSARNetCDF	The Peakiness should be between 0 and 15000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RPEPOPSINNCDF	RangePeakinessExcludingPolarOPSINNetCDF	The Peakiness should be between 0 and 90000 (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RSSBCONCDF	RangeSeaStateBiasCorrectionOceanNetCDF	The sea state bias correction should be between -500mm and 0mm (or missing) for surface type = ocean
RSSHAOFDNCDF	RangeSeaSurfaceHeightAnomalyOceanFD3NetCDF	The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean
RSSHAOFDPLRMNCD F	RangeSeaSurfaceHeightAnomalyOceanFD3PLRMNetCDF	The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean
RSSHAONCDF	RangeSeaSurfaceHeightAnomalyOceanNetCDF	The sea surface height anomaly should be between -3000mm and 3000mm (or missing) for surface type = ocean
RSWHOEPFDNCDF	RangeSignificantWaveHeightOceanExcludingPolarFD2NetCDF	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RSWHOEPFDPLRMNC DF	RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
RSWHOEPNCDF	RangeSignificantWaveHeightOceanExcludingPolarNetCDF	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees
SPHRTASCNSNCDF	SPH_Rel_Time_ASC_Node_Start_v2_NetCDF	Rel_Time_ASC_Node_Start mismatch (DBL ASC, rounded up to 0.1)
	SameOrOpeHigher1HzIndexEer20HzDate	The 1 Hz index of a 20 Hz comple chould be the came or 1 higher then its providue comple

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

1

# 7.3 Missing QCC Reports

Number of products with missing QCC reports:

### L1B and L2 Product name

n/a

P2P Product name

CS\_OFFL\_SIR\_GOP\_2\_20230401T232557\_20230402T001536\_C002