

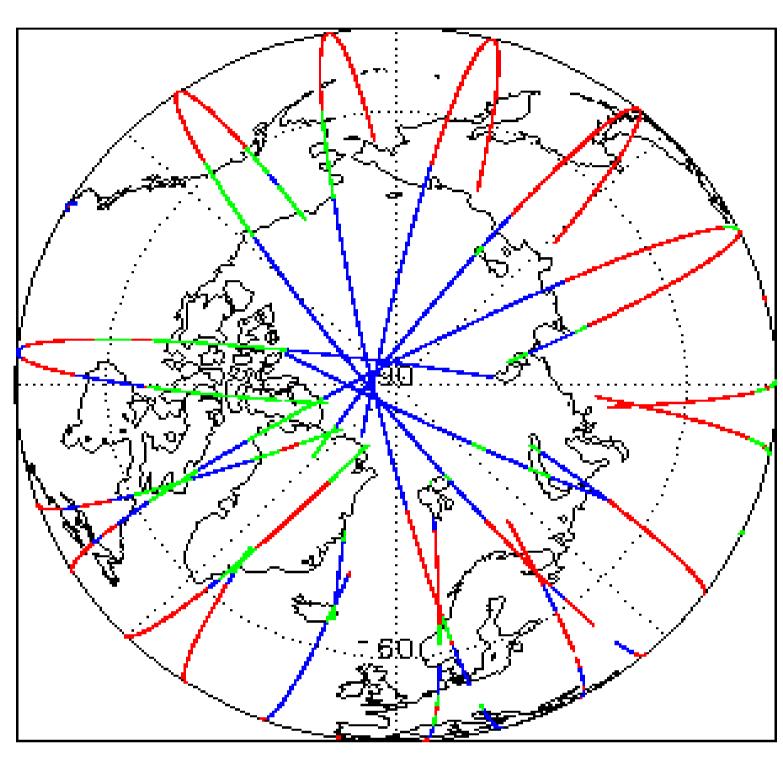
## 1. Overview

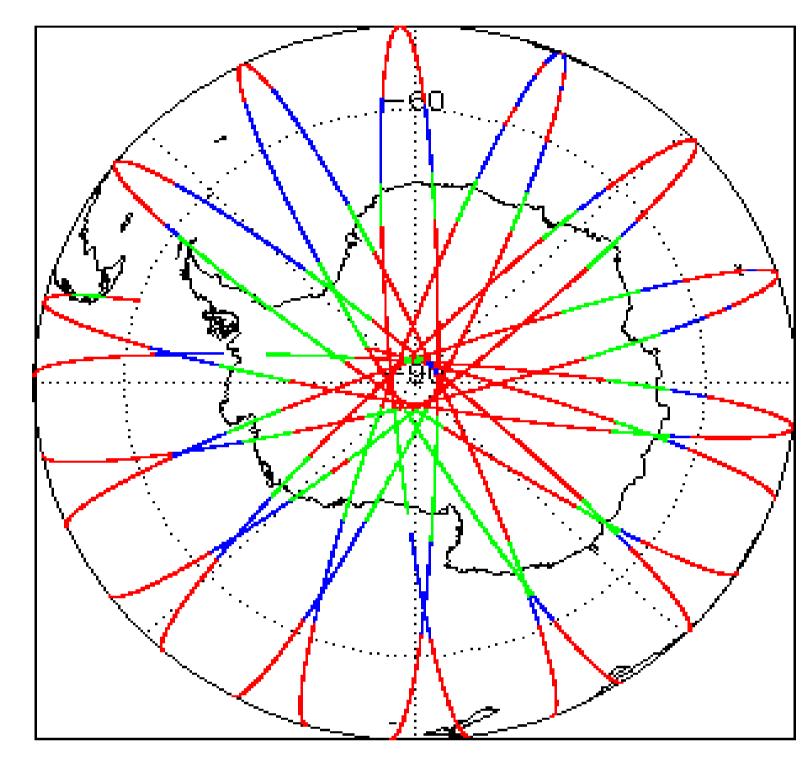
Report Production:	28-Jun-2021	
Processor Used:	CryoSat Ocean Processor	
Data Used:	Near Real Time Ocean Products (NOF L1B & L2 Science Data	

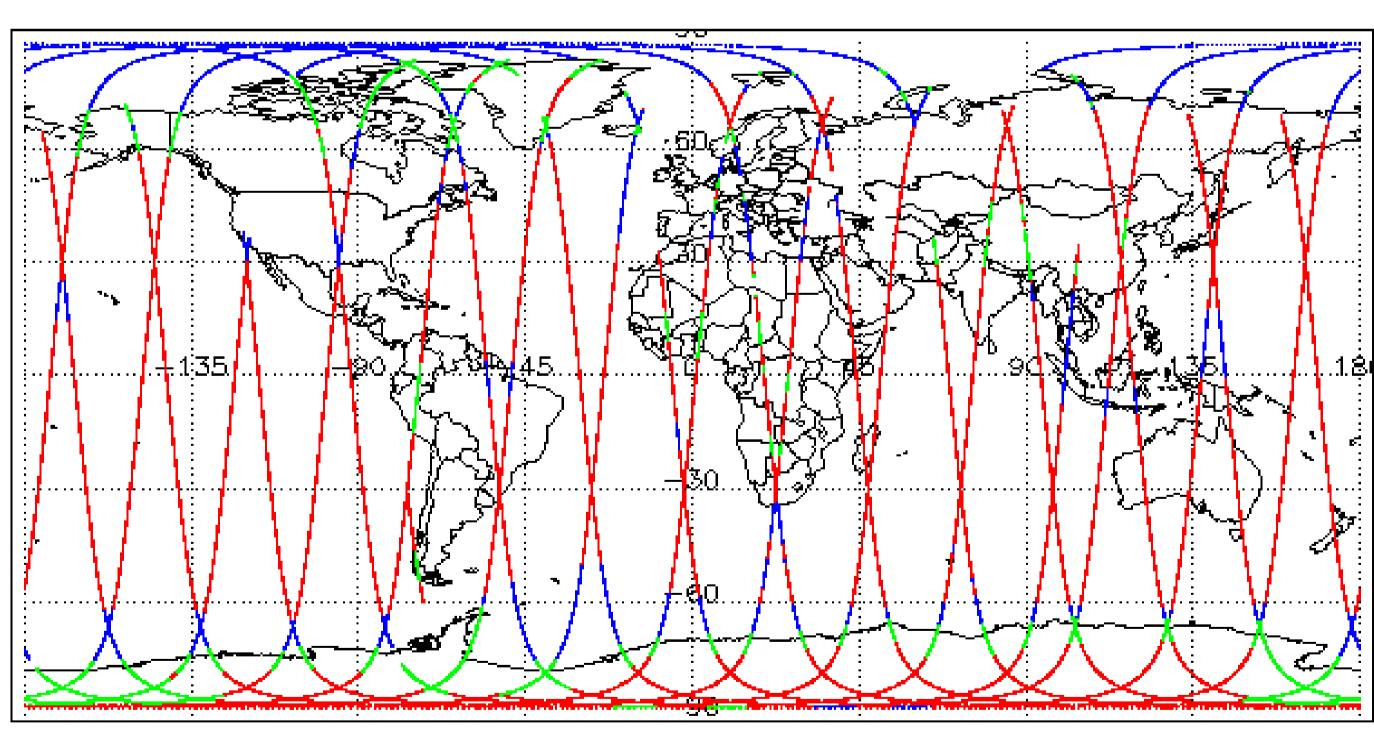
Check	L1 & L2
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	Nominal
Auxiliary Data File Usage Check	Nominal
Auxiliary Correction Error Check	See Section 5.4
Measurement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

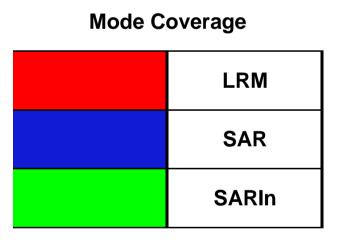
Mission / Instrument News		
26-Jun-2021	None	
27-Jun-2021	None	
28-Jun-2021	Nothing planned	

# 2. Global Coverage









# 3. Instrument Configuration

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

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

## 4. NOP Level 1B Data Quality Check

## 4.1 L1B Product Format Check

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

#### **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 IOPR and IOPN 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:

#### 4.3 L1B Auxilary Data File Usage Check

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

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

Number of products with errors:

#### **4.4 L1B Auxiliary Correction Error Check**

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

Number of products with errors:

0

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#### 4.5 L1B Measurement Confidence Data Check

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

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

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_NOPM1B_20210627T045608_20210627T045708_C001	Power scaling error	There is an error in the scaling of the L1B waveform for one or more records
CS_OFFL_SIR_NOPM1B_20210627T130821_20210627T131307_C001	Power scaling error	There is an error in the scaling of the L1B waveform for one or more records
CS_OFFL_SIR_NOPM1B_20210627T160723_20210627T160912_C001	Power scaling error	There is an error in the scaling of the L1B waveform for one or more records

### 4.6 L1B Waveform Group Data Check

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

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

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Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_NOPM1B_20210627T085846_20210627T090527_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPM1B_20210627T105349_20210627T110530_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPM1B_20210627T130521_20210627T130533_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPM1B_20210627T153528_20210627T155542_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPM1B_20210627T160951_20210627T161256_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPM1B_20210627T223023_20210627T224257_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPM1B_20210627T235549_20210628T000614_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20210627T043405_20210627T043524_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20210627T094149_20210627T094310_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20210627T102154_20210627T102808_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20210627T112526_20210627T112617_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20210627T112620_20210627T112732_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20210627T130022_20210627T130113_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20210627T130130_20210627T130521_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPN1B_20210627T225011_20210627T225227_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPR1B_20210627T020527_20210627T020701_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPR1B_20210627T045709_20210627T045850_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPR1B_20210627T070225_20210627T070548_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPR1B_20210627T175311_20210627T180150_C001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_NOPR1B_20210627T185200_20210627T185438_C001	Loss of Echo	The tracking echo is missing for one or more records

### 5. NOP Level 2 Data Quality Check

#### **5.1 L2 Product Format Check**

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

Number of products with errors: 0

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

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

Number of products with errors:

## 5.3 L2 Auxiliary Data File Usage Check

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

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

0

### **5.4 L2 Auxiliary Correction Error Check**

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

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

- > ECMWF Meteo Corrections: Currently the following corrections are not computed over CONTINENTAL ICE: Dry Tropospheric 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.
- > Mean Sea Surface: The error value is currently set for products over land and sea ice, but this is to be expected.

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

Number of products with errors:

Secretary Control of the Control of	Product	Test Failed	Description
Lac CHA. Sim NUMBER 2 Intelligent (CHAIN CHAIN C	CS_OFFL_SIR_NOPM_2_20210627T044704_20210627T044934_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
SOCIETY SET NOTES 2 2010/27 FORD 2010/27 FOR	CS_OFFL_SIR_NOPM_2_20210627T124625_20210627T125311_C001	Topography (1), Total Geocentric Ocean	There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1) and the tidal corrections for one or more records
Sec. OFFL. SRE, NOPPL, 20210627710532, 20210627710536, 000000000000000000000000000000000000	CS_OFFL_SIR_NOPM_2_20210627T130521_20210627T130533_C001		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
Search (Sea NoPel 2 200 100271 100867 (2010071 100800 ) 2010 10071 100800 ) 2010 10071 100800 (2010 100800 (2	CS_OFFL_SIR_NOPM_2_20210627T160951_20210627T161256_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
Tapagraphy 13.  So OFF, Sik NOPN 2 2021/00/27101740 2021/00/271017010 C011  Very Six NOPN 2 2021/00/27101740 2021/00/271017010 C011  Very Six NOPN 2 2021/00/27101740 2021/00/2710460 C011  Very Disparation (Control of the Control of	CS_OFFL_SIR_NOPM_2_20210627T214052_20210627T215652_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
Tapography (1)  Tapography (1)	CS_OFFL_SIR_NOPN_2_20210627T003557_20210627T003809_C001		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
Company   Comp	CS_OFFL_SIR_NOPN_2_20210627T011719_20210627T012110_C001	` ' '	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20210627104505_20210627104505_L0001	CS_OFFL_SIR_NOPN_2_20210627T021704_20210627T021839_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFF_SIR_NOPN_2_2021082710203_2021082710440_0001  Man Sas Surface (1), Mean Dynamic Topography (1) There is an enter with the MSS height (solution 1) and the Mean Dynamic Topography (1) There is an enter with the MSS height (solution 1) and the Mean Dynamic Topography (1) There is an enter with the MSS height (solution 1) and the Mean Dynamic Topography (1) There is an enter with the MSS height (solution 1) and the Mean Dynamic Topography (1) There is an enter with the MSS height (solution 1) and the Mean Dynamic Topography (1) The Company of the Man Dynamic Topography (1) There is an enter with the MSS height (solution 1) and the Mean Dynamic Topography (1) The Man Sas Surface (1), Mean Dynamic Topography (1) The Man Sas Surface (1), Mean Dynamic Topography (1) The Man Sas Surface (1), Mean Dynamic Topography (1) The Man Sas Surface (1), Mean Dynamic Topography (1) The Man Sas Surface (1), Mean Dynamic Topography (1) The Man Sas Surface (1), Mean Dynamic Topography (1) The Man Dynamic Topography (1) The M	CS_OFFL_SIR_NOPN_2_20210627T043405_20210627T043524_C001	Topography (1), Total Geocentric Ocean	
Topography (1)  CS_OFFL_SIR_NOPN_2_202106277102101_20210827107449 C001  Man Sas Surface (1), Mean Dynamic Topography (2)  Man Sas Surface (1), Mean Dynamic Topography (3)  Man Sas Surface (1), Mean Dynamic Topography (4)  Man Dynamic Topography (6)  Man Dynamic Topography (7)  Man Sas Surface (1), Mean Dynamic Topography (8)  Man Dynamic Topography (7)  Man Sas Surface (1), Mean Dynamic Topography (8)  Man Sas Surface (1), M	CS_OFFL_SIR_NOPN_2_20210627T052612_20210627T052737_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
Topography (1) Topography (2) Topography (2) Topography (3) Topography (4) Topography (4) Topography (5) Topography (6) Topography (6) Topography (7) Topography (7) Topography (7) Topography (8) Topogr	CS_OFFL_SIR_NOPN_2_20210627T053302_20210627T053614_C001	· · · · · · · · · · · · · · · · · · ·	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) Topography (1) Topography (1) Topography height (solution 1) for one or more records Mean Soa Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (COT) Total Geocentric Ocean Tide (GOT) Total Topography (1) Total Topography (1) Total Geocentric Ocean Tide (GOT) Total Geocentric Ocean Topography (1) Total Geocentric Ocean Topography (1) Total Geocentric Ocean Topography (1) Total Geocentric Ocean Topogr	CS_OFFL_SIR_NOPN_2_20210627T071201_20210627T071449_C001		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20210627T102164_20210627T102808_C001  Topography (1), Total Geocentric Ocean Tide https://doi.org/10.00101.1.1.0071 for one or more records for the prography (1). Total Geocentric Communication (1) and the Mean Dynamic Topography (1). Total Geocentric Communication (1) and the Mean Dynamic Topography (1). Total Geocentric Communication (1) and the Mean Dynamic Topography (1). Total Geocentric Communication (1) and the Mean Dynamic Topography (1). Total Geocentric Communication (1) and the Mean Dynamic Topography (1). Total Geocentric Communication (1) and the Mean Dynamic Topography (1). Total Geocentric Communication (1) and the Mean Dynamic Topography (1). Total Geocentric Communication (1) and the Mean Dynamic Topography (1). Total Geocentric Communication (1) and the Mean Dynamic Topography (1). Total Geocentric Communication (1) and the Mean Dynamic Topography (1). Total Geocentric Communication (2) and Geocentric Commu	CS_OFFL_SIR_NOPN_2_20210627T084638_20210627T084914_C001		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). Total Geocentric Ocean Trial (FS), Non- Land Dynamic Topography (1). Total Geocentric Ocean Trial (FS), Non- Mean Dynamic Topography (1). Total Geocentric Ocean Trial (FS), Non- Topography (1). Total Geocentric Ocean Trial (FS), Non- Mean Dynamic Topography (1). Total Geocentric Ocean Trial (FS), Non- Topography (1). Total Geocentric Ocean Trial (FS), Non- Mean Dynamic Topography (1). Total Geocentric Ocean Trial (FS), Non- Topography (1). Total Geocentric Ocean Trial (FS), Non- Mean Dynamic Topography (1). Total Geocentric Ocean Trial (FS), Non- Topography (1). Total Geocentric Ocean Trial (FS), Non- Mean Dynamic Topography (1). Total Geocentric Ocean Trial (FS), Non- Topography (1). Total Geocentric Ocean Trial (FS), Non- Mean Dynamic Topography (1). Total Geocentric Ocean Trial (FS), Non- Mean Dynamic Topography (1). Total Geocentric Ocean Trial (FS), Non- Mean Sea Surface (1), Mean Dynamic Topography (1). Total Geocentric Ocean Trial (GC), Non- Mean Sea Surface (1), Mean Dynamic Topography (1). Total Geocentric Ocean Trial (GC), Non- Mean Sea Surface (1), Mean Dynamic Topography (1) for one or more records  CS_OFFL_SIR_NOPN_2_20210627T13010_20210627T152709_CO01  CS_OFFL_SIR_NOPN_2_20210627T152504_20210627T152709_CO01  CS_OFFL_SIR_NOPN_2_20210627T170259_20210627T170518_CO01  Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Trial (GC), Non- Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Trial (GC), Non- Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Trial (GC), Non- Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Trial (GC), Non- Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Trial (GC), Non- Mean Sea Surface (1), Mean Dynamic Topography (1), Non- T	CS_OFFL_SIR_NOPN_2_20210627T094149_20210627T094310_C001	Topography (1), Total Geocentric Ocean	
Topography (1) Total Geocentric Ocean Title (FES), North 2 20210627T12620 20210627T112612 C001  Mean Dynamic Topography (1)  Mean Dy	CS_OFFL_SIR_NOPN_2_20210627T102154_20210627T102808_C001		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS OFFL SIR NOPN 2 20210627T112526 20210627T112620 20210627T12732 CO01  Mean Dynamic Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography height for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height for one or more r	CS_OFFL_SIR_NOPN_2_20210627T112108_20210627T112212_C001		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20210627T121425_20210627T121613_C001  Mean Dynamic Topography (1)  Mean Dynamic Topography (1)  Mean Dynamic Topography (2)  Mean Dynamic Topography (3)  Mean Dynamic Topography (4)  Mean Dynamic Topography (5)  Mean Dynamic Topography (6)  Mean Dynamic Topography (8)  Mean Dynamic Topography (9)  Mean Dynamic Topography (1)  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)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1), the Mean Dynamic Topography (1)  Topography (1) Total Geocentric Ocean Tide (GOT), Total Geocentric	CS_OFFL_SIR_NOPN_2_20210627T112526_20210627T112617_C001	Geocentric Ocean Tide (GOT), Total	There is an error with the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT and solution 2: FES) and the Non-Equilibrium Long Period Ocean Tide for one or more records
Mean Sea Surface (1), Mean Dynamic CS_OFFL_SIR_NOPN_2_20210627T130130_20210627T130127_C001  Mean Dynamic Topography (1)  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1). There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide height (solution 1) and the tidal corrections for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) and the tidal corrections for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) and the tidal corrections for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  There is an error with the Mean Dynamic Topography height (solution 1) for one or more records  There is an error with the Mean Dynamic Topography height (solution 1) for one or more records  There is an error with the Mean Dynamic Topography height (solution 1) for one or more records  There is an error with the Mean Dynamic Topography height (solution 1) for one or more records  There is an error with the Mean Dynamic Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and	CS_OFFL_SIR_NOPN_2_20210627T112620_20210627T112732_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
Topography (1) Topography eight (solution 1) for one or more records  Mean Dynamic Topography (1) There is an error with the Mean Dynamic Topography height (solution 1), the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT) Mean Sas Surface (1), Mean Dynamic Topography height (solution 1), the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT) Mean Sas Surface (1), Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide (GOT) There is an error with the MSS height (solution 1), the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocen	CS_OFFL_SIR_NOPN_2_20210627T121425_20210627T121613_C001	Tiviean Dynamic Toboqrabny (1)	There is an error with the Mean Dynamic Topography height for one or more records
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) 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) There is an error with the MSS height (solution 1), the 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 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 Mean Dynamic Topography 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 Mean Dynamic Topography height (solution 1) for one or more records  Mean Dynamic Topography (1) There is an error with the Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records  Mean Dynamic Topography (1) There is an error with the Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography height (solution 1) and	CS_OFFL_SIR_NOPN_2_20210627T130022_20210627T130113_C001	· · · · · · · · · · · · · · · · · · ·	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20210627T130521_C001  Topography (1), Total Geocentric Ocean Tide (GOT) Mean Sea Surface (1), Mean Dynamic Topography (1) Total Geocentric Ocean Tide (eight (solution 1) and the Total Geocentric Ocean Tide (eight (solution 1) and the MSS height (solution 1), the Mean Dynamic Topography (1), Total Geocentric Ocean Tide (eight (solution 1) and the tidal corrections for one or more records  There is an error with the MSS 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). There is an error with the MSS 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). There is an error with the MSS 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). There is an error with the MSS 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). There is an error with the MSS 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). There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topograp	CS_OFFL_SIR_NOPN_2_20210627T130117_20210627T130127_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20210627T152504_20210627T170618_C001  Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Topography (solution 1) and the tidal corrections for one or more records  Mean Sea Surface (1), Mean Dynamic Topography (eliminate is an error with the MSS height (solution 1) and the Mean Dynamic Topography (eliminate is an error with the MSS height (solution 1) and the Mean Dynamic Topography (eliminate is an error with the MSS height (solution 1) and the Mean Dynamic Topography (eliminate is an error with the MSS height (solution 1) and the Mean Dynamic Topography (eliminate is an error with the MSS height (solution 1) and the Mean Dynamic Topography (eliminate is an error with the MSS height (solution 1) and the Mean Dynamic Topography (eliminate is an error with the MSS height (solution 1) and the Mean Dynamic Topography (eliminate is an error with the MSS height (solution 1) and the Mean Dynamic Topography (eliminate is an error with the MSS height (solution 1) and the Mean Dynamic Topography (eliminate is an error with the MSS height (solution 1) and the Mean Dynamic Topography (eliminate is an error with the MSS height (solution 1) and the Mean Dynamic Topography (eliminate is an error with the MSS height (solution 1) and the Mean Dynamic Topography (eliminate is an error with the MSS height (solution 1) and the Mean Dynamic Topography (eliminate is an error with the MSS height (solution 1) and the Mean Dynamic Topography (eliminate is an error with the MSS height (solution 1) and the Mean Dynamic Topography (eliminate is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (eliminate is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (eliminate is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (eliminate is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (eliminate is an error with the MSS height (solution 1) and the Mean Dynamic Topography height	CS_OFFL_SIR_NOPN_2_20210627T130130_20210627T130521_C001	Topography (1), Total Geocentric Ocean	
Topography (1) Topography height (solution 1) for one or more records  CS_OFFL_SIR_NOPN_2_20210627T171140_20210627T171259_C001  Mean Dynamic Topography (1) There is an error with the Mean Dynamic Topography height for one or more records  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_NOPN_2_20210627T185035_20210627T185159_C001  Mean Dynamic Topography (1) There is an error with the Mean Dynamic Topography height for one or more records  CS_OFFL_SIR_NOPN_2_20210627T201824_20210627T202021_C001  Mean Dynamic Topography (1) There is an error with the Mean Dynamic Topography height for one or more records  CS_OFFL_SIR_NOPN_2_20210627T201824_20210627T202021_C001  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records  CS_OFFL_SIR_NOPN_2_20210627T202857_20210627T203031_C001  CS_OFFL_SIR_NOPN_2_20210627T211211_20210627T211311_C001  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records	CS_OFFL_SIR_NOPN_2_20210627T152504_20210627T152709_C001	Topography (1), Total Geocentric Ocean	There is an error with the MSS height (solution 1), the Mean Dynamic Topography (solution 1) and the tidal corrections for one or more records
CS_OFFL_SIR_NOPN_2_20210627T184152_20210627T184513_C001  Mean Dynamic Topography (1)  Mean Dynamic Topography (1)  There is an error with the Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography height for one or more records  CS_OFFL_SIR_NOPN_2_20210627T201824_20210627T202021_C001  Mean Dynamic Topography (1)  There is an error with the Mean Dynamic Topography height for one or more records  Mean Dynamic Topography (1)  There is an error with the Mean Dynamic Topography height for one or more records  CS_OFFL_SIR_NOPN_2_20210627T201824_20210627T202021_C001  Mean Dynamic Topography (1)  Mean Dynamic Topography (1)  There is an error with the Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography (1)  CS_OFFL_SIR_NOPN_2_20210627T202857_20210627T203031_C001  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records  CS_OFFL_SIR_NOPN_2_20210627T201627T201628_20210627T211311_C001  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean	CS_OFFL_SIR_NOPN_2_20210627T170259_20210627T170618_C001	` '	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)  Topography height (solution 1) for one or more records  Mean Dynamic Topography (1)  Topography height (solution 1) for one or more records  There is an error with the Mean Dynamic Topography height for one or more records  There is an error with the Mean Dynamic Topography height for one or more records  There is an error with the Mean Dynamic Topography height for one or more records  There is an error with the Mean Dynamic Topography height for one or more records  There is an error with the Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography (1)  Topography (1)  Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  Topography (1)  Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records	CS_OFFL_SIR_NOPN_2_20210627T171140_20210627T171259_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20210627T201824_20210627T202021_C001  Mean Dynamic Topography (1)  Mean Dynamic Topography (1)  There is an error with the Mean Dynamic Topography height for one of more records  CS_OFFL_SIR_NOPN_2_20210627T202857_20210627T203031_C001  CS_OFFL_SIR_NOPN_2_20210627T202857_20210627T203031_C001  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  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 height (solution 1) and the Mean Dynamic To	CS_OFFL_SIR_NOPN_2_20210627T184152_20210627T184513_C001		There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS_OFFL_SIR_NOPN_2_20210627T202857_20210627T203031_C001  Mean Sea Surface (1), Mean Dynamic Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  There is an error with the MSS height (solution 1) and the Mean Dynamic Topography (1)  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  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 height (solution 1) and the Mean Dynamic Topography	CS_OFFL_SIR_NOPN_2_20210627T185035_20210627T185159_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20210627T202857_20210627T203031_C001  Topography (1)  Topography height (solution 1) for one or more records  Mean Sea Surface (1), Mean Dynamic Topography height (solution 1) for one or more records  Topography height (solution 1) for one or more records  Topography height (solution 1) for one or more records  Topography height (solution 1) for one or more records  Topography height (solution 1) for one or more records  Topography height (solution 1) for one or more records  Topography height (solution 1) for one or more records  Topography height (solution 1) for one or more records  Topography height (solution 1) for one or more records  Topography height (solution 1) and the Mean Dynamic There is an error with the MSS height (solution 1) and the Mean Dynamic There is an error with the MSS height (solution 1) and the Mean Dynamic There is an error with the MSS height (solution 1) and the Mean Dynamic There is an error with the MSS height (solution 1) and the Mean Dynamic There is an error with the MSS height (solution 1) and the Mean Dynamic There is an error with the MSS height (solution 1) and the Mean Dynamic There is an error with the MSS height (solution 1) and the Mean Dynamic There is an error with the MSS height (solution 1) and the Mean Dynamic There is an error with the MSS height (solution 1) and the Mean Dynamic There is an error with the MSS height (solution 1) and the Mean Dynamic There is an error with the MSS height (solution 1) and the Mean Dynamic There is an error with the MSS height (solution 1) and the Mean Dynamic There is an error with the MSS height (solution 1) and the Mean Dynamic There is an error with the MSS height (solution 1) and the Mean Dynamic There is an error with the MSS height (solution 1) and the Mean Dynamic There is an error with the MSS height (solution 1) and the Mean Dynamic There is an error with the MSS height (solution 1) and the Mean Dynamic There is an error with the MSS height (solution 1) and the Mean Dynamic There is an error with the MSS	CS_OFFL_SIR_NOPN_2_20210627T201824_20210627T202021_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20210627T211211_20210627T210835_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) and the Mean Dynamic	CS_OFFL_SIR_NOPN_2_20210627T202857_20210627T203031_C001	· · · · · · · · · · · · · · · · · · ·	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
CS OFFI SIR NOPN 2 202106271220628 202106271220835 COO1	CS_OFFL_SIR_NOPN_2_20210627T211211_20210627T211311_C001	` ''	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records
	CS_OFFL_SIR_NOPN_2_20210627T220628_20210627T220835_C001	` ' '	There is an error with the MSS height (solution 1) and the Mean Dynamic Topography height (solution 1) for one or more records

CS_OFFL_SIR_NOPN_2_20210627T225011_20210627T225227_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_NOPN_2_20210627T233644_20210627T233831_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPN_2_20210627T235344_20210627T235549_C001	Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-	There is an error with the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT and solution 2: FES) and the Non-Equilibrium Long Period Ocean Tide for one or more records
CS_OFFL_SIR_NOPR_2_20210627T012110_20210627T012617_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_NOPR_2_20210627T045421_20210627T045608_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPR_2_20210627T100410_20210627T100624_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_NOPR_2_20210627T111440_20210627T111524_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPR_2_20210627T111528_20210627T111612_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPR_2_20210627T113026_20210627T113138_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPR_2_20210627T143536_20210627T144044_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_NOPR_2_20210627T160339_20210627T160442_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPR_2_20210627T160501_20210627T160532_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPR_2_20210627T161435_20210627T162244_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_NOPR_2_20210627T174012_20210627T174414_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records
CS_OFFL_SIR_NOPR_2_20210627T175311_20210627T180150_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_NOPR_2_20210627T193411_20210627T194155_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_NOPR_2_20210627T211312_20210627T211855_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_NOPR_2_20210627T224448_20210627T224630_C001	Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES), Non-	There is an error with the Mean Dynamic Topography (solution 1), the Total Geocentric Ocean Tide (solution 1: GOT and solution 2: FES) and the Non-Equilibrium Long Period Ocean Tide for one or more records
CS_OFFL_SIR_NOPR_2_20210627T225227_20210627T225838_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:

Product	Test Failed	Description
CS_OFFL_SIR_NOPM_2_20210627T045608_20210627T045708_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records
CS_OFFL_SIR_NOPM_2_20210627T130821_20210627T131307_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records
CS_OFFL_SIR_NOPM_2_20210627T160723_20210627T160912_C001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records

### 5.6 L2 Measurement Quality Flag Check

### L2 Quality Flags (20Hz)

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

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

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

Number of products with errors: 92

Product	Test Failed	Description
CS_OFFL_SIR_NOPM_2_20210627T000019_20210627T000024_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_NOPM_2_20210627T001136_20210627T002604_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_NOPM_2_20210627T002928_20210627T003402_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_NOPM_2_20210627T003405_20210627T003418_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_NOPM_2_20210627T004133_20210627T010713_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_NOPM_2_20210627T014044_20210627T020108_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_NOPM_2_20210627T020140_20210627T020527_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_NOPM_2_20210627T020928_20210627T021317_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_NOPM_2_20210627T021339_20210627T021704_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_NOPM_2_20210627T022029_20210627T024700_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_NOPM_2_20210627T031820_20210627T034500_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_NOPM_2_20210627T034743_20210627T035232_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_NOPM_2_20210627T040030_20210627T043405_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_NOPM_2_20210627T044704_20210627T044934_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_NOPM_2_20210627T052245_20210627T052356_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_NOPM_2_20210627T052737_20210627T053302_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_NOPM_2_20210627T053947_20210627T060106_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_NOPM_2_20210627T060352_20210627T061439_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_NOPM_2_20210627T062540_20210627T062848_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_NOPM_2_20210627T064506_20210627T070225_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_NOPM_2_20210627T070703_20210627T071201_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_NOPM_2_20210627T071854_20210627T075508_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_NOPM_2_20210627T081552_20210627T083939_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_NOPM_2_20210627T084914_20210627T085107_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_NOPM_2_20210627T085846_20210627T090527_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_NOPM_2_20210627T090529_20210627T091347_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_NOPM_2_20210627T092010_20210627T092927_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_NOPM_2_20210627T094310_20210627T094605_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_NOPM_2_20210627T094813_20210627T100410_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_NOPM_2_20210627T100624_20210627T102110_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_NOPM_2_20210627T102808_20210627T103020_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_NOPM_2_20210627T103104_20210627T103521_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_NOPM_2_20210627T103742_20210627T105159_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_NOPM_2_20210627T105349_20210627T110530_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_NOPM_2_20210627T113138_20210627T113912_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_NOPM_2_20210627T113915_20210627T114201_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_NOPM_2_20210627T114233_20210627T114325_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_NOPM_2_20210627T114822_20210627T120144_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_NOPM_2_20210627T120601_20210627T121424_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_NOPM_2_20210627T121659_20210627T123926_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_NOPM_2_20210627T131530_20210627T131836_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_NOPM_2_20210627T131838_20210627T134132_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_NOPM_2_20210627T134746_20210627T135243_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_NOPM_2_20210627T135702_20210627T135807_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_NOPM_2_20210627T135821_20210627T142122_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_NOPM_2_20210627T145413_20210627T152004_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_NOPM_2_20210627T152709_20210627T153308_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_NOPM_2_20210627T153528_20210627T155542_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_NOPM_2_20210627T155545_20210627T160335_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_NOPM_2_20210627T160951_20210627T161256_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_NOPM_2_20210627T162600_20210627T165906_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_NOPM_2_20210627T170618_20210627T171140_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_NOPM_2_20210627T171456_20210627T171808_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_NOPM_2_20210627T171815_20210627T171936_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_NOPM_2_20210627T174937_20210627T175311_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_NOPM_2_20210627T180504_20210627T181419_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_NOPM_2_20210627T181704_20210627T183842_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
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CS_OFFL_SIR_NOPM_2_20210627T184513_20210627T184622_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_NOPM_2_20210627T184628_20210627T185035_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_NOPM_2_20210627T185439_20210627T190540_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_NOPM_2_20210627T190727_20210627T191326_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_NOPM_2_20210627T191532_20210627T191921_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_NOPM_2_20210627T194155_20210627T201716_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_NOPM_2_20210627T202021_20210627T202521_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_NOPM_2_20210627T203621_20210627T210726_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_NOPM_2_20210627T212025_20210627T213501_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_NOPM_2_20210627T214052_20210627T215652_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_NOPM_2_20210627T215909_20210627T220420_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_NOPM_2_20210627T220439_20210627T220451_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_NOPM_2_20210627T220457_20210627T220628_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_NOPM_2_20210627T221413_20210627T222802_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_NOPM_2_20210627T223023_20210627T224257_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_NOPM_2_20210627T230945_20210627T232003_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_NOPM_2_20210627T232143_20210627T233556_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_NOPM_2_20210627T233831_20210627T234332_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_NOPM_2_20210627T234412_20210627T234514_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_NOPM_2_20210627T235208_20210627T235344_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_NOPM_2_20210627T235549_20210628T000614_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_NOPN_2_20210627T094605_20210627T094747_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_NOPN_2_20210627T143514_20210627T143536_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_NOPN_2_20210627T162244_20210627T162600_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.
C3_OFFL_SIK_NOFN_2_2021002/1102244_2021002/1102000_C001		
CS_OFFL_SIR_NOFN_2_202100271102244_202100271102000_C001  CS_OFFL_SIR_NOFN_2_20210627T173354_20210627T173538_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_NOPR_2_20210627T003924_20210627T004133_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_NOPR_2_20210627T012110_20210627T012617_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_NOPR_2_20210627T051637_20210627T051904_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_NOPR_2_20210627T091529_20210627T092009_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_NOPR_2_20210627T100410_20210627T100624_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_NOPR_2_20210627T160501_20210627T160532_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_NOPR_2_20210627T171259_20210627T171455_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_NOPR_2_20210627T192909_20210627T193117_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_NOPR_2_20210627T211909_20210627T212025_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 (20Hz PLRM)

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

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

Number of products with errors:

79

Product	Test Failed	Description
CS_OFFL_SIR_NOPN_2_20210627T011507_20210627T011630_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_NOPN_2_20210627T011719_20210627T012110_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_NOPN_2_20210627T021704_20210627T021839_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_NOPN_2_20210627T043405_20210627T043524_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_NOPN_2_20210627T050713_20210627T050820_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_NOPN_2_20210627T053302_20210627T053614_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_NOPN_2_20210627T063341_20210627T063437_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_NOPN_2_20210627T064155_20210627T064505_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_NOPN_2_20210627T070548_20210627T070703_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_NOPN_2_20210627T071201_20210627T071449_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_NOPN_2_20210627T085107_20210627T085733_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_NOPN_2_20210627T094149_20210627T094310_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_NOPN_2_20210627T102154_20210627T102808_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_NOPN_2_20210627T103020_20210627T103104_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_NOPN_2_20210627T111612_20210627T111642_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_NOPN_2_20210627T112249_20210627T112334_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_NOPN_2_20210627T114325_20210627T114821_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_NOPN_2_20210627T120408_20210627T120601_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_NOPN_2_20210627T124101_20210627T124434_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_NOPN_2_20210627T124525_20210627T124625_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_NOPN_2_20210627T130130_20210627T130521_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_NOPN_2_20210627T135243_20210627T135507_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_NOPN_2_20210627T142122_20210627T142305_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_NOPN_2_20210627T143514_20210627T143536_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_NOPN_2_20210627T152308_20210627T152428_C001		The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20210627T152504_20210627T152709_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_NOPN_2_20210627T162244_20210627T162600_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_NOPN_2_20210627T170259_20210627T170618_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_NOPN_2_20210627T173200_20210627T173223_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_NOPN_2_20210627T174841_20210627T174937_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_NOPN_2_20210627T180150_20210627T180503_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_NOPN_2_20210627T184152_20210627T184513_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_NOPN_2_20210627T202857_20210627T203031_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_NOPN_2_20210627T210755_20210627T210857_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_NOPN_2_20210627T211211_20210627T211311_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_NOPN_2_20210627T215730_20210627T215909_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_NOPN_2_20210627T220628_20210627T220835_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_NOPN_2_20210627T225011_20210627T225227_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_NOPN_2_20210627T230731_20210627T230945_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_NOPR_2_20210627T000327_20210627T001136_C001	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	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags
CS_OFFL_SIR_NOPR_2_20210627T003924_20210627T004133_C001	Altimeter Range and Backscatter Quality PLRM	and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20210627T010713_20210627T010948_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_NOPR_2_20210627T020527_20210627T020701_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_NOPR_2_20210627T024700_20210627T024821_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_NOPR_2_20210627T030714_20210627T030945_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_NOPR_2_20210627T034500_20210627T034619_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_NOPR_2_20210627T043525_20210627T043604_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_NOPR_2_20210627T044934_20210627T045041_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_NOPR_2_20210627T045421_20210627T045608_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_NOPR_2_20210627T052357_20210627T052612_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_NOPR_2_20210627T053614_20210627T053947_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_NOPR_2_20210627T063033_20210627T063212_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_NOPR_2_20210627T071523_20210627T071854_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_NOPR_2_20210627T083939_20210627T084637_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_NOPR_2_20210627T103657_20210627T103741_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_NOPR_2_20210627T105159_20210627T105348_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_NOPR_2_20210627T111440_20210627T111524_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_NOPR_2_20210627T113026_20210627T113138_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_NOPR_2_20210627T121613_20210627T121659_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_NOPR_2_20210627T130534_20210627T130821_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_NOPR_2_20210627T134132_20210627T134342_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_NOPR_2_20210627T143357_20210627T143514_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_NOPR_2_20210627T143536_20210627T144044_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_NOPR_2_20210627T161435_20210627T162244_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_NOPR_2_20210627T165907_20210627T170259_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_NOPR_2_20210627T171259_20210627T171455_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.

	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
nd Backscatter Quality PLRM, OCOG	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
nd Backscatter Quality PLRM, OCOG	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
Itimeter 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.
nd Backscatter Quality PLRM, OCOG	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
nd Backscaffer Challity PLRIVE CL.C.G. T	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
nd Backscatter Quality PLRM, OCOG	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
nd Backscatter Quality PLRM, OCOG	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
nd Backscatter Quality PLRM, OCOG	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
Itimeter 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.
C cottill cottill cottill cottill cottill cottill CC cottill CC	ean Altimeter Range, SSHA, SWH d Backscatter Quality PLRM, OCOG meter Range and Backscatter Quality RM ean Altimeter Range, SSHA, SWH d Backscatter Quality PLRM, OCOG meter Range and Backscatter Quality RM ean Altimeter Range, SSHA, SWH d Backscatter Quality PLRM, OCOG meter Range and Backscatter Quality RM ean Altimeter Range, SSHA, SWH d Backscatter Quality PLRM, OCOG meter Range and Backscatter Quality RM ean Altimeter Range, SSHA, SWH d Backscatter Quality PLRM, OCOG meter Range and Backscatter Quality RM ean Altimeter Range, SSHA, SWH d Backscatter Quality PLRM, OCOG meter Range and Backscatter Quality RM ean Altimeter Range, SSHA, SWH d Backscatter Quality PLRM, OCOG meter Range and Backscatter Quality RM ean Altimeter Range, SSHA, SWH d Backscatter Quality PLRM, OCOG meter Range and Backscatter Quality RM COG Altimeter Range Quality PLRM, COG Backscatter Quality RM COG Altimeter Range Quality PLRM, COG Backscatter Quality RM COG Altimeter Range Quality PLRM, COG Backscatter Quality RM COG Altimeter Range Quality PLRM, COG Backscatter Quality RM COG Backscatter Quality PLRM, COG Backscatter Quality RM COG Altimeter Range Quality PLRM, COG Backscatter Quality RM COG Altimeter Range Quality PLRM, COG Backscatter Quality RM COG Altimeter Range Quality PLRM, COG Backscatter Quality RM COG Altimeter Range Quality PLRM, COG Backscatter Quality RM COG Altimeter Range Quality PLRM, COG Backscatter Quality RM COG Altimeter Range Quality PLRM, COG Backscatter Quality RM COG Altimeter Range Quality PLRM, COG Backscatter Quality RM COG Altimeter Range Quality PLRM, COG Backscatter Quality RM COG Altimeter Range Quality PLRM, COG Backscatter Quality RM COG Altimeter Range Quality PLRM, COG Backscatter Quality RM COG Altimeter Range Quality PLRM, COG Altimeter Range Quality PLRM, COG Backscatter Quality RM COG Altimeter Range Quality PLRM, COG Altimeter Range Quality PLRM, COG Backscatter Quality

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

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

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

Number of products with errors: 180

### 5.7 L2 Ocean Retracking Quality Check

#### L2 Retracking Flags (20Hz)

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

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

63

Number of products with errors:

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

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

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

Number of products with errors: 135

# 7. NOP QCC Report Analysis

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

Product type	No. Products	No. QCC Reports	No. Valid	No. Warnings	No. Errors
SIR_NOPM1B	146	146	1	145	0
SIR_NOPR1B	102	102	0	102	0
SIR_NOPN1B	93	93	3	90	0
SIR_NOPM_2	146	146	89	57	0
SIR_NOPR_2	102	102	24	77	1
SIR_NOPN_2	93	93	42	51	0

### 7.1 QCC Errors

**Number of QCC reports with errors:** 

1

#### Total number of occurrences of each error

Product Type RLOBOPI	CDF RL	RLOBOPNCDF	RL	-	-	-	-	-	-	-
SIR_NOPR_2 1	1	1	1							

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

# 7.2 QCC Warnings

Number of QCC reports with warnings

1752

Total number of occurrences of each warning

Product Type	BCSHNCDF	IOHHMOOR	MVIOEPFDNCDF	MVIOEPNCDF	MVIONCDF	RBSZOPOEPFDNCDF	RBSZOPOEPFDPLRMNCI	
SIR_NOPM1B	145	0	0	0	0	0	0	
SIR_NOPM_2	0	0	44	45	1	48	0	
SIR_NOPN1B	88	0	0	0	0	0	0	
SIR_NOPN_2	0	0	11	30	6	22	24	
SIR_NOPR1B	96	0	0	0	0	0	0	
SIR_NOPR_2	0	1	41	49	2	37	33	

Product Type	RBSZOPOEPNCDF	RNELPOTONCDF	RPEPOPFDLRMNCDF	RPEPOPFDPLRMSARNC	RPEPOPFDPLRMSINNCD	RPEPOPFDSARNCDF	RPEPOPFDSINNCDF
SIR_NOPM1B	0	0	0	0	0	0	0
SIR_NOPM_2	43	1	36	0	0	0	0
SIR_NOPN1B	0	0	0	0	0	0	0
SIR_NOPN_2	18	0	0	0	23	0	31
SIR_NOPR1B	0	0	0	0	0	0	0
SIR NOPR 2	22	0	0	53	0	62	0

Product Type	RPEPOPLRMNCDF	RPEPOPSARNCDF	RPEPOPSINNCDF	RSSBCONCDF	RSSHAOFDNCDF	RSSHAOFDPLRMNCDF	RSSHAONCDF
SIR_NOPM1B	0	0	0	0	0	0	0
SIR_NOPM_2	31	0	0	9	28	0	8
SIR_NOPN1B	0	0	0	0	0	0	0
SIR_NOPN_2	0	0	29	15	32	42	22
SIR_NOPR1B	0	0	0	0	0	0	0
SIR NOPR 2	0	50	0	5	60	44	11

Product Type	RSWHOEPFDNCDF	RSWHOEPFDPLRMNCDF	RSWHOEPNCDF	SOOHHIFHD	SCSTODHRNCDF	SCSTODNCDF	-
SIR_NOPM1B	0	0	0	0	0	0	
SIR_NOPM_2	39	0	3	0	0	0	
SIR_NOPN1B	0	0	0	0	43	0	
SIR_NOPN_2	26	25	14	0	0	0	
SIR_NOPR1B	0	0	0	0	102	3	
SIR_NOPR_2	38	52	4	5	0	0	

Test Description Key:	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					
RPEPOPFDPLRMSIN NCDF	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	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					
RSWHOEPFDPLRMN CDF	RangeSignificantWaveHeightOceanExcludingPolarFD2PLRMNetCDF	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees					
RSWHOEPNCDF	RangeSignificantWaveHeightOceanExcludingPolarNetCDF	The significant wave height should be between 0mm and 15000mm (or missing) for surface type = ocean for latitudes between -70 and 70 degrees					
SOOHHIFHD	SameOrOneHigher1HzIndexFor20HzData	The 1 Hz index of a 20 Hz sample should be the same or 1 higher than its previous sample					
SCSTODHRNCDF	SequenceCounterStepTODHRNetCDF	The sequence counter should be modulo 4 higher with regard to the previous sequence counter					
SCSTODNCDF	SequenceCounterStepTODNetCDF	The sequence counter should be one higher (modulo 16384) with regard to the previous sequence counter					

## 7.3 Missing QCC Reports

Number of products with missing QCC reports:

0