

1. Overview

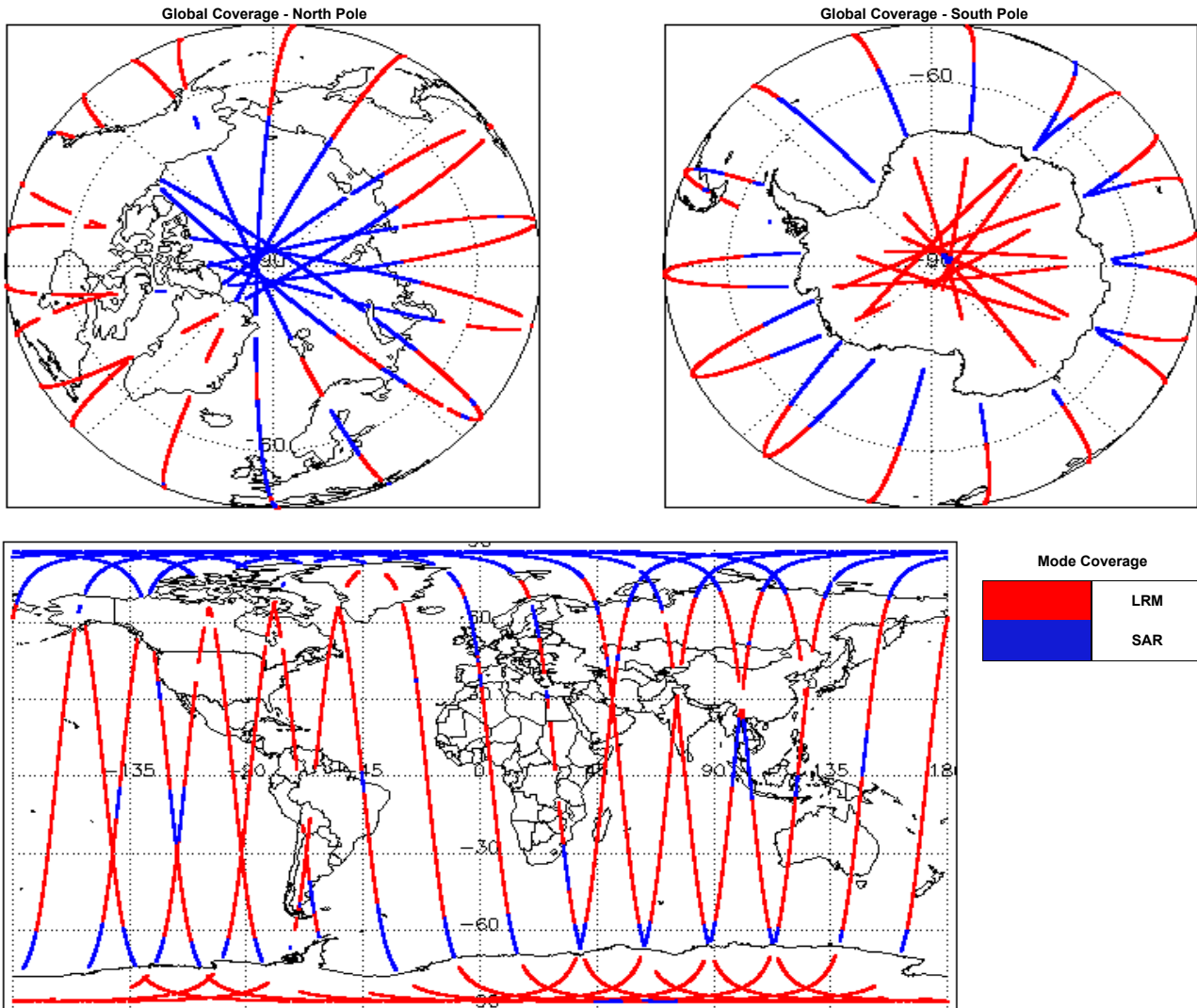
Report Production Date:	10-Oct-2016
Processor Used:	CryoSat Ocean Processor
Data Used:	Intermediate Ocean Products (IOP) L1B and L2 Science Data

Check	Status
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	See Section 4.3 and 5.3
Auxiliary Correction Error Check	See Section 5.4
Measurement Confidence Data Check	See Section 4.5, 4.6, 5.5, 5.6, 5.7 and 5.8

Mission / Instrument News

04-Oct-2016	None
05-Oct-2016	IOP data missing from 1800h onwards, due to missing Auxiliary files at the time of processing
06-Oct-2016	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
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4. IOP Level 1B Data Quality Check

4.1 L1B Product Format Check

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

Number of products with errors: 0

4.2 L1B Product Header Analysis

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

Number of products with errors: 0

4.3 L1B Auxiliary Data File Usage Check

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

Number of products with errors: 67

Product	AUX File	Comment
All IOP_1B products from 20161005T115821 to 181935 (67 products)	CS_OPER_AUX_U_WIND_20161005T180000; CS_OPER_AUX_WETTRP_20161005T180000	U_WIND and WETTRP Auxiliary files missing at the time of processing

4.4 L1B Auxiliary Correction Error Check

CryoSat L1B data includes a correction error flag (field 60) for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 0

4.5 L1B Measurement Confidence Data Check

CryoSat L1B data includes a measurement confidence flag (field 12) for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 1

Product	Test Failed	Description
CS_OFFL_SIR_IOP_1B_20161005T081955_20161005T082014_B001	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 (field 65) 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.

Number of products with errors: 13

Product	Test Failed	Description
CS_OFFL_SIR_IOP_1B_20161005T033132_20161005T033232_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20161005T033301_20161005T033723_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20161005T043127_20161005T043345_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20161005T050834_20161005T051108_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20161005T064811_20161005T064958_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20161005T065053_20161005T065839_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20161005T073517_20161005T073914_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20161005T081754_20161005T081904_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20161005T082123_20161005T082724_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20161005T120638_20161005T121607_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20161005T132827_20161005T133518_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20161005T135430_20161005T135620_B001	Loss of Echo	The tracking echo is missing for one or more records
CS_OFFL_SIR_IOP_1B_20161005T170435_20161005T172941_B001	Loss of Echo	The tracking echo is missing for one or more records

5. IOP Level 2 Data Quality Check

5.1 L2 Product Format Check

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

Number of products with errors: 0

5.2 L2 Product Header Analysis

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

Number of products with errors: 0

5.3 L2 Auxiliary Data File Usage Check

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

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

Number of products with errors: 67

Product	AUX File	Comment
All IOP_2 products from 20161005T115821 to 181935 (67 products)	CS_OPER_AUX_U_WIND_20161005T180000; CS_OPER_AUX_WETTRP_20161005T180000	U_WIND and WETTRP Auxiliary files missing at the time of processing

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 two 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.

Sea State Bias Error: 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: 78

Product	Test Failed	Description
CS_OFFL_SIR_IOP_2_20161004T235156_20161005T000119_B001	Dry Tropospheric correction, Wet Tropospheric correction, Inverse Barometric correction, GIM Ionospheric correction, U-Wind and V-Wind components	Due to a missing Auxiliary file at the time of processing, there is an error with the Meteo corrections for one or more records

CS_OFFL_SIR_IOP_2__20161005T002323_20161005T004036_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2__20161005T012858_20161005T013714_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2__20161005T032829_20161005T033114_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2__20161005T033132_20161005T033232_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2__20161005T061652_20161005T062126_B001	Mean Sea Surface (2)	There is an error with the MSS height (solution 2) for one or more records
CS_OFFL_SIR_IOP_2__20161005T064405_20161005T064719_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2__20161005T065053_20161005T065839_B001	Total Geocentric Ocean Tide (FES)	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) for one or more records
CS_OFFL_SIR_IOP_2__20161005T075315_20161005T081754_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2__20161005T082034_20161005T082046_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
CS_OFFL_SIR_IOP_2__20161005T082123_20161005T082724_B001	Total Geocentric Ocean Tide (FES), Non-Equilibrium Long Period Ocean Tide	There is an error with the Total Geocentric Ocean Tide height (solution 2: FES) and the Non-equilibrium Long Period Ocean Tide height for one or more records
All IOP_2 products from 20161005T115821 to 181935 (67 products)	Dry Tropospheric correction, Wet Tropospheric correction, Inverse Barometric correction, GIM Ionospheric correction, U-Wind and V-Wind components	Due to missing Auxiliary files at the time of processing, there is an error with the Meteo corrections for one or more records

5.5 L2 Measurement Confidence Data Check

CryoSat L2 data includes a measurement confidence flag (field 14) for each 20-Hz measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 1

Product	Test Failed	Description
CS_OFFL_SIR_IOP_2__20161005T081955_20161005T082014_B001	Power scaling error	There is an error in the scaling of the L2 waveform for one or more records

5.6 L2 Range Measurement Check

CryoSat L2 data includes an Ocean (field 25) and Ice (field 30) Range Averaging Status flag for each measurement record. The bit value of this flag indicates any problems when set.

Currently, there are two common status flags 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.

Ocean Range Averaging Status Flag: This flag is currently set for products over land and sea ice, but this is to be expected.

Ice Range Averaging Status Flag: This flag is currently set for products over land, but this is to be expected.

Number of products with errors: 29

Product	Test Failed	Description
CS_OFFL_SIR_IOP_2__20161005T001927_20161005T002059_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T010350_20161005T010656_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T010659_20161005T011134_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T024206_20161005T024421_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T024426_20161005T025029_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T033132_20161005T033232_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T042130_20161005T042249_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T042416_20161005T042833_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T060327_20161005T060909_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T065053_20161005T065839_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T074231_20161005T074744_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T092019_20161005T092231_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T092237_20161005T092650_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T100740_20161005T100911_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T105609_20161005T110129_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T110130_20161005T110135_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T110142_20161005T110148_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T110148_20161005T110355_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T123534_20161005T124029_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T124041_20161005T124047_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T124047_20161005T124058_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T124104_20161005T124221_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T141517_20161005T141956_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.

CS_OFFL_SIR_IOP_2__20161005T142018_20161005T142146_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T155406_20161005T155856_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T155900_20161005T155910_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T155916_20161005T160241_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T173331_20161005T173810_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T173814_20161005T174146_B001	Ice Range Averaging Status	The Ice Range Averaging Status Flag has been set for one or more records.

5.7 L2 SWH and Backscatter Measurement Check

CryoSat L2 data includes a SWH Averaging Status flag (field 49) and an Ocean (field 55) and Ice (field 61) Backscatter Averaging Status flag for each measurement record. The bit value of this flag indicates any problems when set.

Currently, there are three common status flags 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.

SWH Averaging Status Flag: This flag is currently set for products over land and sea ice, but this is to be expected.

Ocean Backscatter Averaging Status Flag: This flag is currently set for products over land and sea ice, but this is to be expected.

Ice Backscatter Averaging Status Flag: This flag is currently set for products over land, but this is to be expected.

Number of products with errors: 27

Product	Test Failed	Description
CS_OFFL_SIR_IOP_2__20161005T001927_20161005T002059_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T010350_20161005T010656_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T010659_20161005T011134_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T024206_20161005T024421_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T024426_20161005T025029_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T033132_20161005T033232_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T042130_20161005T042249_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T042416_20161005T042833_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T065053_20161005T065839_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T074231_20161005T074744_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T092019_20161005T092231_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T092237_20161005T092650_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T100740_20161005T100911_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T105609_20161005T110129_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T110130_20161005T110135_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T110142_20161005T110148_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T110148_20161005T110355_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T123534_20161005T124029_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T124041_20161005T124047_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T124104_20161005T124221_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T141517_20161005T141956_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T142018_20161005T142146_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T155406_20161005T155856_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T155900_20161005T155910_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T155916_20161005T160241_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T173331_20161005T173810_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_IOP_2__20161005T173814_20161005T174146_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.

5.8 L2 Ocean Retracking Quality Check

CryoSat L2 data includes an ocean retracking quality flag (field 19) for each 20-Hz measurement record. The bit value of this flag indicates any problems when set.

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

Number of products with errors: 101