

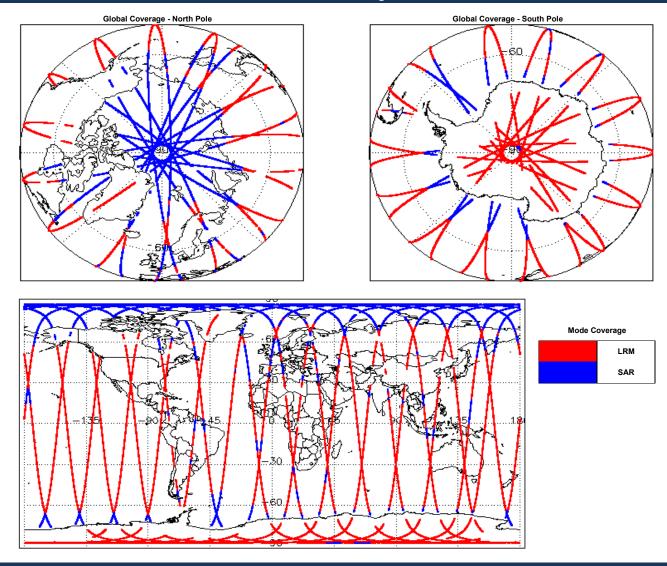
IDEAS+ Daily Report for GOP data:

<u>06/01/2016</u>

Report Production Date:	04-Feb-2016	Check	Status	
		Server check: science-pds.cryosat.esa.int	Nominal	
Processor Used:	CryoSat Ocean Processor	Server check: calval-pds.cryosat.esa.int	Nominal	
		Product Software Check	Nominal	
Data Used:	Geophysical Ocean Products (GOP)	Product Format Check	Nominal	
	L1B and L2 Science Data	Product Header Analysis	Nominal	
	•	Auxiliary Data File Usage Check	Nominal	
		Auxiliary Correction Error Check	See Section 5.4	
		Measurement Confidence Data Check	See Section 4.6, 5.6, 5.7 and 5.8	

06-Jan-2016 None 07-Jan-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

4. GOP Level 1B Data Quality Check

4.1 L1B Product Format Check

Each product, retrieved and unpacked from the science server, is checked to ensure it consists of both an XML header file (.HDR) and a 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 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.						
Number of products with errors: 0						
4.4 L1B Auxiliary Correction Error Check						
CryoSat L1B data includes a correction error flag (field 60) for each measurem	ent 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 r	measurement record. The bit va	lue of this flag indicates any problems when set.				
Number of products with errors: 0						
4.6 L1B Waveform Group Data Check						
CryoSat L1B data includes a waveform data flag (field 65) for each measurement	ent 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_GOP_1B_20160106T001353_20160106T002235_B001	Loss of Echo	The tracking echo is missing for one or more records				
CS_OFFL_SIR_GOP_1B_20160106T011748_20160106T013004_B001	Loss of Echo	The tracking echo is missing for one or more records				
CS_OFFL_SIR_GOP_1B_20160106T091211_20160106T091439_B001	Loss of Echo	The tracking echo is missing for one or more records				
CS_OFFL_SIR_GOP_1B_20160106T125040_20160106T130251_B001	Loss of Echo	The tracking echo is missing for one or more records				
CS_OFFL_SIR_GOP_1B_20160106T141312_20160106T142801_B001	Loss of Echo	The tracking echo is missing for one or more records				
CS_OFFL_SIR_GOP_1B_20160106T193655_20160106T193833_B001	Loss of Echo	The tracking echo is missing for one or more records				
CS_OFFL_SIR_GOP_1B_20160106T194804_20160106T194850_B001	Loss of Echo	The tracking echo is missing for one or more records				
CS_OFFL_SIR_GOP_1B_20160106T195038_20160106T195827_B001	Loss of Echo	The tracking echo is missing for one or more records				
CS_OFFL_SIR_GOP_1B_20160106T200133_20160106T203629_B001	Loss of Echo	The tracking echo is missing for one or more records				
CS_OFFL_SIR_GOP_1B_20160106T203629_20160106T203902_B001	Loss of Echo	The tracking echo is missing for one or more records				
CS_OFFL_SIR_GOP_1B_20160106T212718_20160106T214121_B001	Loss of Echo	The tracking echo is missing for one or more records				
CS OFFL SIR GOP 1B 20160106T215305 20160106T221504 B001	Loss of Echo	The tracking echo is missing for one or more records				

5. GOP Level 2 Data Quality Check

The tracking echo is missing for one or more records

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 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

Loss of Echo

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.

CS_OFFL_SIR_GOP_1B_20160106T232208_20160106T235422_B001

Number of products with errors:

5.4 L2 Auxiliary Correction Error Check

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

Currently, there are 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.

17

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

Number of products with errors:

Product	Test Failed	Description
CS_OFFL_SIR_GOP_220160106T001353_20160106T002235_B001	Mean Sea Surface (2)	There is an error with the MSS height (solution 2) for one or more records
CS_OFFL_SIR_GOP_2_20160106T011534_20160106T011747_B001	Total Geocentric Ocean Tide (GOT), Total Geocentric Ocean Tide (FES)	There is an error with the Total Geocentric Ocean Tide height (solution 1: GOT and solution 2: FES)
CS_OFFL_SIR_GOP_2_20160106T013004_20160106T013228_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_GOP_2_20160106T014004_20160106T014703_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_GOP_220160106T015710_20160106T020736_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_GOP_220160106T031842_20160106T032453_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_GOP_2_20160106T050558_20160106T050702_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_GOP_220160106T071352_20160106T071601_B001	Mean Sea Surface (1)	There is an error with the MSS height (solution 1) for one or more records
CS_OFFL_SIR_GOP_220160106T071602_20160106T072212_B001	Mean Sea Surface (1)	There is an error with the MSS height (solution 1) for one or more records
CS_OFFL_SIR_GOP_220160106T082409_20160106T082452_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_GOP_220160106T094940_20160106T095109_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_GOP_220160106T105434_20160106T112722_B001		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_GOP_220160106T150631_20160106T151341_B001	Fotal Geocentric Ocean Tide (FES), Non-	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_GOP_220160106T212158_20160106T212443_B001	Leauilibrium Long Period Ocean Lide	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_GOP_220160106T212718_20160106T214121_B001	Fotal Geocentric Ocean Tide (FES), Non-	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_GOP_220160106T214122_20160106T215019_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_GOP_220160106T231853_20160106T232207_B001	For the second s	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

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:

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. 28

Number of products with errors:

Product Test Failed Description The Ice Range Averaging Status Flag has been set for one or more CS_OFFL_SIR_GOP_2_20160106T004640_20160106T005157_B001 Ice Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS OFFL SIR GOP 2 20160106T005158 20160106T005204 B001 Ice Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS_OFFL_SIR_GOP_2__20160106T005204_20160106T005210_B001 Ice Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS_OFFL_SIR_GOP_2_20160106T005211_20160106T005216_B001 ce Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS_OFFL_SIR_GOP_2__20160106T005217_20160106T005414_B001 Ice Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS_OFFL_SIR_GOP_2__20160106T023109_20160106T023115_B001 Ice Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS OFFL SIR GOP 2 20160106T023115 20160106T023126 B001 Ice Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS_OFFL_SIR_GOP_2__20160106T023133_20160106T023247_B001 Ice Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS_OFFL_SIR_GOP_2__20160106T040619_20160106T041025_B001 Ice Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS_OFFL_SIR_GOP_2_20160106T041046_20160106T041243_B001 Ice Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS_OFFL_SIR_GOP_2__20160106T054413_20160106T054938_B001 Ice Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS_OFFL_SIR_GOP_2__20160106T054945_20160106T055310_B001 Ice Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS_OFFL_SIR_GOP_2__20160106T072412_20160106T073217_B001 Ice Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS_OFFL_SIR_GOP_2__20160106T090348_20160106T090905_B001 ce Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS_OFFL_SIR_GOP_2__20160106T104512_20160106T104805_B001 Ice Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS_OFFL_SIR_GOP_2_20160106T122517_20160106T122711_B001 Ice Range Averaging Status records. The Ice Range Averaging Status Flag has been set for one or more CS_OFFL_SIR_GOP_2__20160106T122936_20160106T123201_B001 Ice Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS_OFFL_SIR_GOP_2__20160106T131908_20160106T132308_B001 Ice Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS OFFL SIR GOP 2 20160106T140358 20160106T140628 B001 Ice Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS_OFFL_SIR_GOP_2__20160106T140653_20160106T141117_B001 Ice Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS_OFFL_SIR_GOP_2__20160106T154140_20160106T155032_B001 Ice Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS_OFFL_SIR_GOP_2__20160106T172109_20160106T172249_B001 Ice Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS_OFFL_SIR_GOP_2__20160106T172356_20160106T172821_B001 Ice Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS OFFL SIR GOP 2 20160106T190310 20160106T190859 B001 Ice Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS_OFFL_SIR_GOP_2__20160106T204216_20160106T204730_B001 Ice Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS_OFFL_SIR_GOP_2__20160106T222049_20160106T222216_B001 ce Range Averaging Status records The Ice Range Averaging Status Flag has been set for one or more CS OFFL SIR GOP 2 20160106T222224 20160106T222632 B001 Ice Range Averaging Status 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. 23

Number of products with errors:

CS_OFFL_SIR_GOP_2_20160106T005204_20160106T005210_B001 tee Backscatter Averaging Status The Loe Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T005211_20160106T005216_B001 tee Backscatter Averaging Status The Loe Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T005217_20160106T003213_0160106T003213_0160106T003217_B001 tee Backscatter Averaging Status The Loe Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T004019_20160106T0041245_B001 tee Backscatter Averaging Status The Loe Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T040419_20160106T041045_B001 tee Backscatter Averaging Status The Loe Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T040419_20160106T041243_B001 tee Backscatter Averaging Status The Loe Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T0704143_20160106T054938_B001 tee Backscatter Averaging Status The Loe Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T0704124_20160106T073217_B001 tee Backscatter Averaging Status The Loe Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T0454945_20160106T102591_B001 tee Backscatter Averaging Status The Loe	Product	Test Failed	Description
CS_OFFL_SIR_GOP_2_0160100100500211_201601005102010 Ice Backscatter Averaging Status Icecards. CS_OFFL_SIR_GOP_2_20160106T005211_20160106T005216_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T005217_20160106T005216_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T023132_20160106T022247_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T0404619_20160106T041262_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T0404619_20160106T041243_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T054438_20160106T05438_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T072412_20160106T03217_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T102412_20160106T104085_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more	CS_OFFL_SIR_GOP_220160106T004640_20160106T005157_B001	Ice Backscatter Averaging Status	
CS_OFFL_SIR_GOP_2_201601061002211_20160106T005216_B001 tee Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T023135_20160106T023126_B001 tee Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T023133_20160106T023247_B001 tee Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T023133_20160106T023247_B001 tee Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T040619_20160106T041025_B001 tee Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T041046_20160106T041025_B001 tee Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T041046_20160106T041045_B001 tee Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T041046_20160106T041045_B001 tee Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T041046_20160106T041045_B001 tee Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T054413_20160106T054938_B001 tee Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T072412_20160106T05310_B001 tee Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T072412_20160106T073217_B001 tee Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T07412_20160106T073217_B001 tee Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T0674412_20160106T09301_B001 tee Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T004512_20160106T09301_B001 tee Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T04512_20160106T09301_B001 tee Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T04512_20160106T0495_B001 tee Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T104512_20160106T0495_B001 tee Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T142529_0E0106T1425201_B001 tee Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T142528_00106T1425201_B001 tee Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T140558_20160106T142520_B001 tee Backscatter Averaging Status The tee Backscatter Averaging Status The tee Backscatter Averaging Status The tee Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T140558_0160161140558_B001 t	CS_OFFL_SIR_GOP_220160106T005204_20160106T005210_B001	Ice Backscatter Averaging Status	
CS_UFFL_SIR_GOP_2_201601061032115_0160106103041_E001 Ice Backscatter Averaging Status records. CS_OFFL_SIR_GOP_2_201601061023115_01601061023247_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_201601061040619_201601061041025_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_201601061041046_201601061041025_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_201601061041046_201601061041243_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_201601061054413_201601061054938_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_201601061054945_20160106105330_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106104061022017_2010010610405905_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status CS_OFFL_SIR_GOP_2_201601061104512_20160106110451201601061104051_201601061104051_20161061104051_201601061104051_201601061140405_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OF	CS_OFFL_SIR_GOP_220160106T005211_20160106T005216_B001	Ice Backscatter Averaging Status	
CS_OFFL_SIR_GOP_2_201601061023112_01601061023124_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T040619_20160106T041025_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T041046_20160106T041243_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T054413_20160106T054938_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T054945_20160106T055310_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T072412_20160106T073217_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T090348_20160106T06598005_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T104512_20160106T122711_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T122517_20160106T122711_B001 Ice Backscatter Averaging Status Flag has been set for one or more records. <td>CS_OFFL_SIR_GOP_220160106T005217_20160106T005414_B001</td> <td>Ice Backscatter Averaging Status</td> <td></td>	CS_OFFL_SIR_GOP_220160106T005217_20160106T005414_B001	Ice Backscatter Averaging Status	
CS_OFFL_SIR_GOP_2_201601061023133_20160106102344_B001 Ice Backscatter Averaging Status records. CS_OFFL_SIR_GOP_2_20160106T040619_20160106T041025_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T041046_20160106T041243_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T054413_20160106T055310_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T072412_20160106T073217_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T070348_20160106T093217_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T104512_20160106T104805_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T104512_20160106T123201_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T132308_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP	CS_OFFL_SIR_GOP_220160106T023115_20160106T023126_B001	Ice Backscatter Averaging Status	
CS_OFFL_SIR_GOP_2_201601061040619_01601061041025_0001 Ince Backscatter Averaging Status records. CS_OFFL_SIR_GOP_2_20160106T06T041046_20160106T054938_8001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T054945_20160106T055310_8001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T072412_20160106T073217_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T072412_20160106T073217_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T070408_20160106T090905_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T104512_20160106T102201_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T122936_20160106T122201_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T122936_20160106T12201_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records.	CS_OFFL_SIR_GOP_220160106T023133_20160106T023247_B001	Ice Backscatter Averaging Status	
CS_OFFL_SIR_GOP_2_201601061041043_201601061041243_B001 Ice Backscatter Averaging Status records. CS_OFFL_SIR_GOP_2_2016010610640445_201601067054938_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_201601061054945_201601061073217_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_2016010610772412_201601061073217_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_201601061104512_201601061090905_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_201601061104512_201601061104805_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_201601061122517_201601061122711_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_201601061122936_201601061123201_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_201601061140053_201601061140053_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records.	CS_OFFL_SIR_GOP_220160106T040619_20160106T041025_B001	Ice Backscatter Averaging Status	
CS_OFFL_SIR_GOP_2_201601061054413_201601061054938_6001 Ice Backscatter Averaging Status records. CS_OFFL_SIR_GOP_2_20160106T054945_20160106T055310_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T072412_20160106T073217_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T090348_20160106T090905_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T104512_20160106T104805_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T122517_20160106T122711_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T122936_20160106T123201_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T131908_20160106T132308_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T140053_20160106T1410628_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. <	CS_OFFL_SIR_GOP_220160106T041046_20160106T041243_B001	Ice Backscatter Averaging Status	
CS_OFFL_SIR_GOP_2_201601061054948_201601061055310_B001 Ice Backscatter Averaging Status records. CS_OFFL_SIR_GOP_2_20160106T072412_20160106T073217_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T104512_20160106T104805_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T122517_20160106T122711_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T122936_20160106T123201_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T132936_20160106T132308_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T131908_20160106T132308_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T140553_20160106T140628_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T140653_20160106T140628_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. <t< td=""><td>CS_OFFL_SIR_GOP_220160106T054413_20160106T054938_B001</td><td>Ice Backscatter Averaging Status</td><td></td></t<>	CS_OFFL_SIR_GOP_220160106T054413_20160106T054938_B001	Ice Backscatter Averaging Status	
CS_OFFL_SIR_GOP_2_2016010610/2412_201601061073217_B001Ice Backscatter Averaging Statusrecords.CS_OFFL_SIR_GOP_2_20160106T104512_20160106T104805_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T104512_20160106T104805_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T122517_20160106T122711_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T122936_20160106T123201_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T131908_20160106T132308_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T140358_20160106T140628_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T140653_20160106T140628_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T140653_20160106T140628_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T154140_20160106T155032_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T172109_20160106T172249_B001<	CS_OFFL_SIR_GOP_220160106T054945_20160106T055310_B001	Ice Backscatter Averaging Status	
CS_OFFL_SIR_GOP_2_20160106T104512_20160106T104805_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T122517_20160106T122711_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T122936_20160106T122201_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T132936_20160106T132308_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T140358_20160106T140628_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T140653_20160106T140628_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T140653_20160106T140628_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T140653_20160106T140628_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T154140_20160106T155032_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T172109_20160106T172249_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more record	CS_OFFL_SIR_GOP_220160106T072412_20160106T073217_B001	Ice Backscatter Averaging Status	
CS_OFFL_SIR_GOP_2_20160106T104512_20160106T104805_B001Ice Backscatter Averaging Statusrecords.CS_OFFL_SIR_GOP_2_20160106T122517_20160106T122711_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T122936_20160106T123201_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T131908_20160106T132308_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T140358_20160106T140628_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T140653_20160106T141117_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T154140_20160106T155032_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T154140_20160106T155032_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T172109_20160106T172249_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T172365_20160106T172249_B001Ice Backscatter Averaging StatusThe Ice Backscatter Averaging Status Flag has been set for one or more records.CS_OFFL_SIR_GOP_2_20160106T172365_20160106T172249_B001<	CS_OFFL_SIR_GOP_220160106T090348_20160106T090905_B001	Ice Backscatter Averaging Status	
CS_OFFL_SIR_GOP_2_20160106T122936_20160106T123201_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T132936_20160106T132308_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T140358_20160106T140628_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T140653_20160106T140628_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T140653_20160106T140628_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T140653_20160106T140628_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T154140_20160106T155032_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T154140_20160106T155032_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T172109_20160106T172249_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag	CS_OFFL_SIR_GOP_220160106T104512_20160106T104805_B001	Ice Backscatter Averaging Status	
CS_OFFL_SIR_GOP_2_201601061122936_201601061123201_B001 Ice Backscatter Averaging Status records. CS_OFFL_SIR_GOP_2_20160106T131908_20160106T132308_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T140358_20160106T140628_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T140653_20160106T141117_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T154140_20160106T141117_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T154140_20160106T155032_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T172109_20160106T172249_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T172109_20160106T172249_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T172249_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records.	CS_OFFL_SIR_GOP_220160106T122517_20160106T122711_B001	Ice Backscatter Averaging Status	
CS_OFFL_SIR_GOP_2_20160106T131908_20160106T132308_B001 ice Backscatter Averaging Status records. CS_OFFL_SIR_GOP_2_20160106T1400558_20160106T140628_B001 ice Backscatter Averaging Status The lce Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T140653_20160106T141117_B001 ice Backscatter Averaging Status The lce Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T154140_20160106T155032_B001 ice Backscatter Averaging Status The lce Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T172109_20160106T172249_B001 ice Backscatter Averaging Status The lce Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T172109_20160106T172249_B001 ice Backscatter Averaging Status The lce Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T172109_20160106T172249_B001 ice Backscatter Averaging Status The lce Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T17209_20160106T172249_B001 ice Backscatter Averaging Status The lce Backscatter Averaging Status Flag has been set for one or more records.	CS_OFFL_SIR_GOP_220160106T122936_20160106T123201_B001	Ice Backscatter Averaging Status	
CS_OFFL_SIR_GOP_2_20160106T140358_20160106T1410528_B001 Ice Backscatter Averaging Status records. CS_OFFL_SIR_GOP_2_20160106T140653_20160106T141117_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T154140_20160106T155032_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T172109_20160106T172249_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T172109_20160106T172249_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T172365_20160106T172249_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records.	CS_OFFL_SIR_GOP_220160106T131908_20160106T132308_B001	Ice Backscatter Averaging Status	
CS_OFFL_SIR_GOP_2_20160106T154140_20160106T155032_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T154140_20160106T155032_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T172109_20160106T172249_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T172109_20160106T172249_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records. CS_OFFL_SIR_GOP_2_20160106T172356_20160106T172821_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records.	CS_OFFL_SIR_GOP_220160106T140358_20160106T140628_B001	Ice Backscatter Averaging Status	
CS_OFFL_SIR_GOP_2_20160106T172109_20160106T172249_B001 Ice Backscatter Averaging Status records. CS_OFFL_SIR_GOP_2_20160106T172109_20160106T172249_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T172109_20160106T172249_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status CS_OFFL_SIR_GOP_2_20160106T172209_20160106T172249_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status	CS_OFFL_SIR_GOP_220160106T140653_20160106T141117_B001	Ice Backscatter Averaging Status	
CS_OFFL_SIR_GOP_2_201601061172201601061172249_B001 Ince Backscatter Averaging Status records. The Ice Backscatter Averaging Status Flag has been set for one or more	CS_OFFL_SIR_GOP_220160106T154140_20160106T155032_B001	Ice Backscatter Averaging Status	
	CS_OFFL_SIR_GOP_220160106T172109_20160106T172249_B001	Ice Backscatter Averaging Status	
	CS_OFFL_SIR_GOP_220160106T172356_20160106T172821_B001	Ice Backscatter Averaging Status	The Ice Backscatter Averaging Status Flag has been set for one or more records.
CS_OFFL_SIR_GOP_2_20160106T222224_20160106T222632_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records.	CS_OFFL_SIR_GOP_220160106T222224_20160106T222632_B001	Ice Backscatter Averaging Status	
CS_OFFL_SIR_GOP_2_20160106T235547_20160107T000115_B001 Ice Backscatter Averaging Status The Ice Backscatter Averaging Status Flag has been set for one or more records.	CS_OFFL_SIR_GOP_220160106T235547_20160107T000115_B001	Ice Backscatter Averaging Status	

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.

152

Number of products with errors: