

1. Overview

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	See Section 4.2
Auxiliary Data File Usage	See Section 5.3
Auxiliary Correction Check	See Section 4.4 and 5.4
Measurement Data Set Check	See Section 4.5 and 5.5

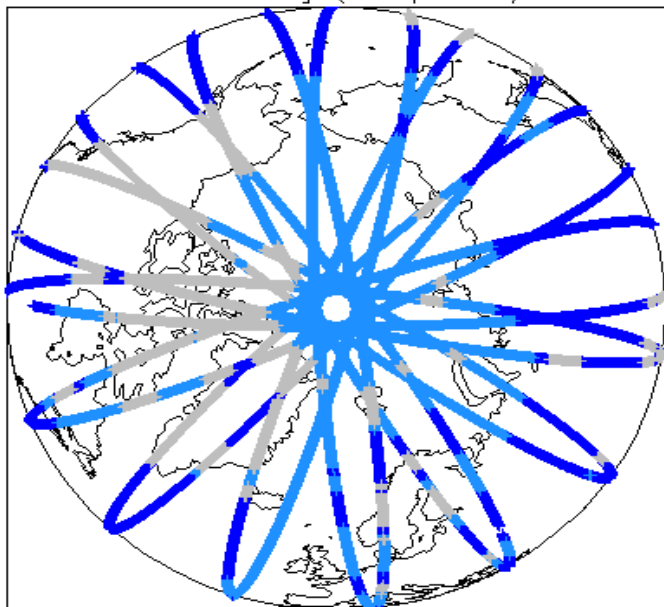
Report Production Date:	20-Feb-2013
Data Used:	OFFLINE L1B and L2 Science Data

Mission / Instrument News

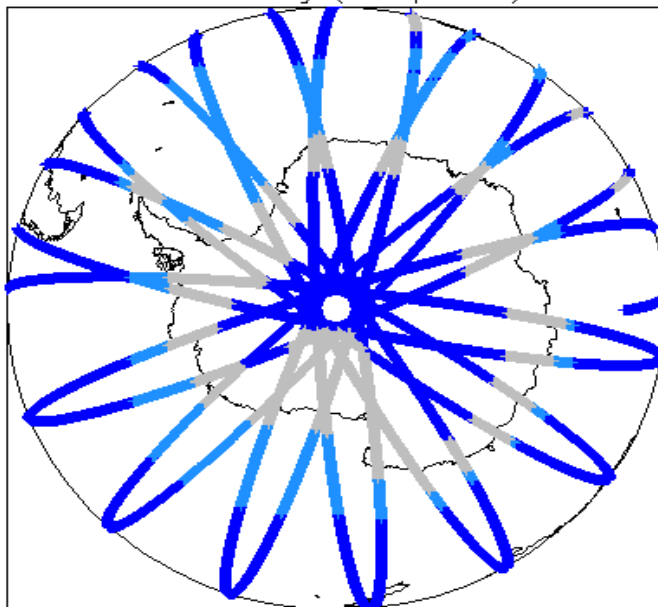
04-Dec-2012	None
05-Dec-2012	None
06-Dec-2012	Nothing planned

2. Global Coverage

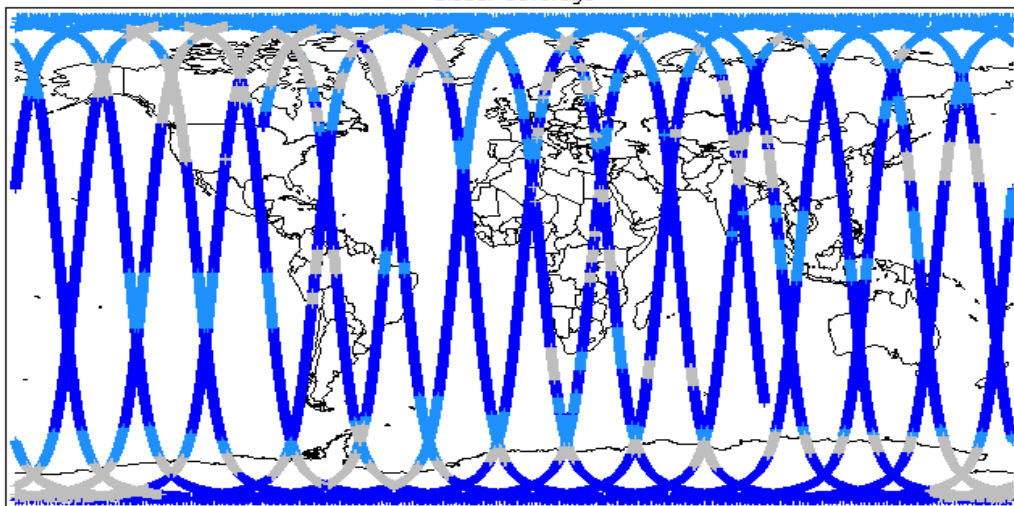
Global Coverage (north pole view)



Global Coverage (south pole view)



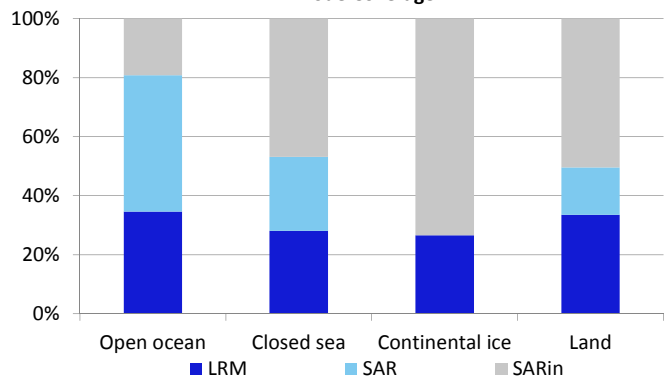
Global Coverage



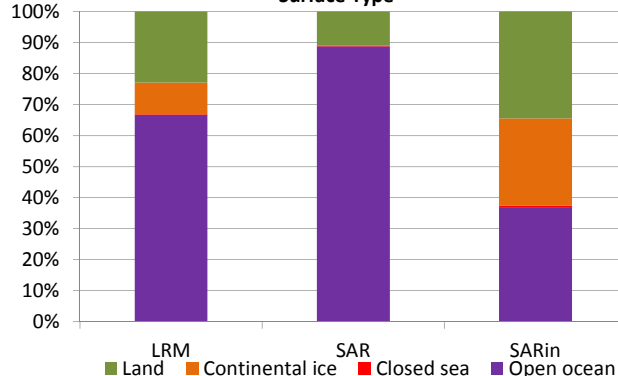
Mode Coverage(%)

LRM	64.26
SAR	21.77
SIN	13.78

Mode Coverage



Surface Type



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 & 3

4. Level 1B Data Quality Check

4.1 L1 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 carried out 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: 1

Product	Test Failed
CS_OFFL_SIR_SAR_1B_20121205T202027_20121205T202027_B001.DBL	Percentage of processing errors detected greater than minimum acceptable threshold.

4.3 L1B Auxiliary Data File Usage Check

Each product is checked for missing Data Set Descriptors wrt 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 Flagged Auxiliary Correction Error Check

Each product is checked to spot auxiliary corrections flagged by the ground-station processing chain as missing or containing errors

Number of products with errors: 4

Product	Test Failed
CS_OFFL_SIR_LRM_1B_20121204T235641_20121205T001819_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_1B_20121205T055702_20121205T061830_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_1B_20121205T114706_20121205T120415_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_1B_20121205T175608_20121205T180111_B001	Dynamic atmosphere correction error

4.5 L1B Measurement Confidence Data Check

CryoSat L1B data includes a measurement confidence flag word (field 14) 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_LRM_1B_20121205T095257_20121205T100750_B001	TRK echo error	The tracking echo has returned an error

5. 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 carried out 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 wrt a pre-determined baseline and also to check the validity of Auxiliary Data Files is correct

Number of products with errors: 2

Product	AUX File	Comment
CS_OFFL_SIR_GDR_2A_20121205T001354_20121205T015307_B001	CS_OPER_AUX_ORBDOR_20121203T215525_20121205T002325_0001	Coverage missing for intervals [2012-12-05T00:23:25, 2012-12-05T01:53:07]
CS_OFFL_SIR_GDR_2A_20121205T232304_20121206T010217_B001	CS_OPER_AUX_ORBDOR_20121204T215525_20121206T002325_0001	Coverage missing for intervals [2012-12-06T00:23:25, 2012-12-06T01:02:17]

5.4 L2 Flagged Auxiliary Correction Error Check

Each product is checked to spot auxiliary corrections flagged by the ground-station processing chain as missing or containing errors

Number of products with errors: 4

Product	Test Failed
CS_OFFL_SIR_LRM_2_20121204T235641_20121205T001819_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_2_20121205T055702_20121205T061830_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_2_20121205T114706_20121205T120415_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_2_20121205T175608_20121205T180111_B001	Dynamic atmosphere correction error

5.5 L2 Measurement Quality Flag Check

CryoSat L2 data includes a quality flag word (field 43) for each 20-Hz measurement record. The bit value of this flag is an assessment of the measurement quality by the ground-segment processing chains

Presently, there are several common data Quality Flag errors raised by the Level 2 products which are either expected due to changes made to the IPF processor in Baseline B or else are due to known issues with the data processors. The investigation of the known issues are on-going and are due to be resolved with the next update of the Level 2 processors. All common known issues are summarised in the list below, followed by a table highlighting any additional issues which may arise from this test.

Freeboard Error: This Quality Flag is correctly set in all products as this parameter is currently not provided in the L2 products and the Freeboard value is presently set to the default value of -9999.

SARin x-track angle error: Currently there is an on-going investigation into the high number of errors from the 'SARin x-track Error' Quality Flag over Antarctica.

Height error and Backscatter error: It has been noted that the number of errors arising from the 'Backscatter Error' and 'Height Error' Quality Flag is much higher than expected over land areas and this is currently part of an on-going investigation by expert teams.

Number of products with errors: 1

Product	Test Failed	Description
CS_OFFL_SIR_SAR_2A_20121205T034457_20121205T034504_B001	Peakiness error	There is an error in the peakiness derivation

6. QCC Check

The QCC is a CryoSat facility that 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.

Nb. There is currently a discrepancy between the number of QCC reports and the number of products reported. This is a known issue and investigation is on-going.

Product type	Nb. Products	Nb. QCC Reports	Nb. Valid	Nb. Warnings	Nb. Errors
SIR_GDR_2A	18	17	0	17	0
SIR_LRM_1B	149	148	141	7	0
SIR_LRM_2	146	145	3	142	0
SIR_SAR_1B	168	168	0	168	0
SIR_SAR_2A	122	122	3	119	0
SIR_SIN_1B	109	109	0	109	0
SIR_SIN_2	105	105	0	105	0

6.1 QCC Errors

Number of products with QCC errors: 0

6.2 Missing QCC Reports

Number of products with missing QCC reports: 27

Product name
CS_OFFL_SIR_GDR_2A_20121204T223440_20121205T001354_B001
CS_OFFL_SIR_LRM_1B_20121204T235641_20121205T001819_B001
CS_OFFL_SIR_LRM_2_20121204T235641_20121205T001819_B001
CS_OFFL_SIR_SAR_1B_20121205T170223_20121205T171331_B001
CS_OFFL_SIR_SAR_1B_20121205T171445_20121205T171457_B001
CS_OFFL_SIR_SAR_1B_20121205T171916_20121205T171925_B001
CS_OFFL_SIR_SAR_1B_20121205T171934_20121205T172127_B001
CS_OFFL_SIR_SAR_1B_20121205T172331_20121205T172539_B001
CS_OFFL_SIR_SAR_1B_20121205T175112_20121205T175453_B001
CS_OFFL_SIR_SAR_1B_20121205T180428_20121205T180736_B001
CS_OFFL_SIR_SAR_1B_20121205T184106_20121205T184307_B001
CS_OFFL_SIR_SAR_2A_20121205T170223_20121205T171331_B001
CS_OFFL_SIR_SAR_2A_20121205T171445_20121205T171457_B001
CS_OFFL_SIR_SAR_2A_20121205T171916_20121205T171925_B001
CS_OFFL_SIR_SAR_2A_20121205T171934_20121205T172127_B001
CS_OFFL_SIR_SAR_2A_20121205T172331_20121205T172539_B001
CS_OFFL_SIR_SAR_2A_20121205T175112_20121205T175453_B001
CS_OFFL_SIR_SAR_2A_20121205T180428_20121205T180736_B001
CS_OFFL_SIR_SAR_2A_20121205T184106_20121205T184306_B001
CS_OFFL_SIR_SIN_1B_20121205T034437_20121205T034457_B001
CS_OFFL_SIR_SIN_1B_20121205T133731_20121205T134749_B001
CS_OFFL_SIR_SIN_1B_20121205T152326_20121205T152638_B001
CS_OFFL_SIR_SIN_1B_20121205T162214_20121205T162528_B001
CS_OFFL_SIR_SIN_2_20121205T034437_20121205T034457_B001
CS_OFFL_SIR_SIN_2_20121205T133731_20121205T134749_B001
CS_OFFL_SIR_SIN_2_20121205T152326_20121205T152638_B001
CS_OFFL_SIR_SIN_2_20121205T162214_20121205T162528_B001