

### 1. Overview

<b>Report Production Date:</b>	09-Apr-2013
<b>Data Used:</b>	OFFLINE L1B and L2 Science Data

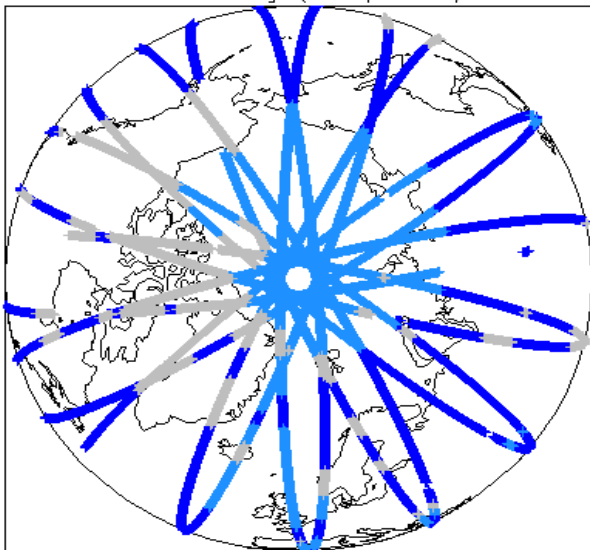
Check	Status
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	Nominal
Auxiliary Data File Usage	See Section 5.3
Auxiliary Correction Check	See Section 4.4 and 5.4
Measurement Data Set Check	See Section 4.5 and 5.5

#### Mission / Instrument News

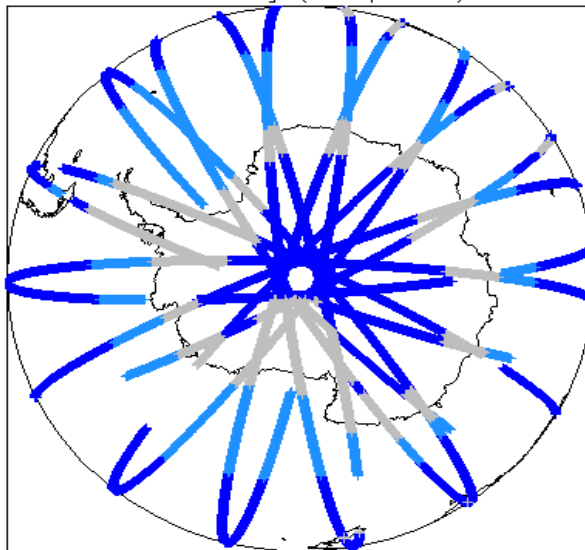
20-Sep-2012	SIRAL unavailability from 20-Sept-2012 07:09:18 to 08:54:09 due to a planned orbit manoeuvre.
21-Sep-2012	None
22-Sep-2012	Nothing planned

### 2. Global Coverage

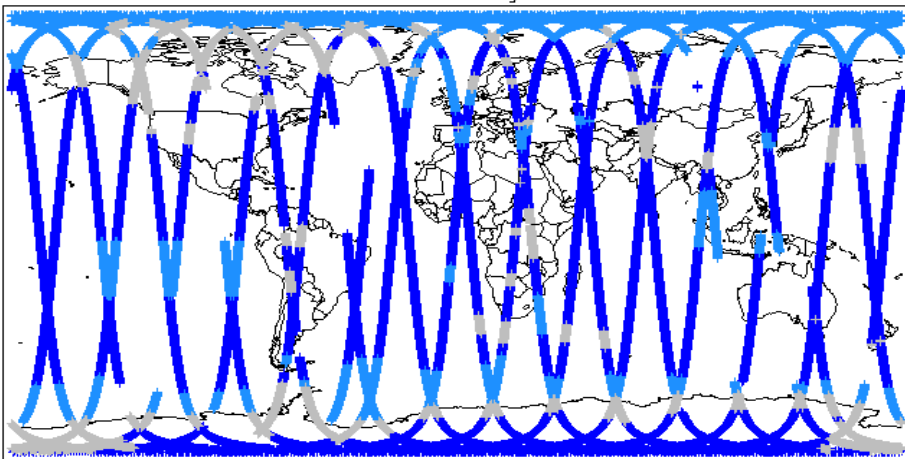
Global Coverage (north pole view)



Global Coverage (south pole view)



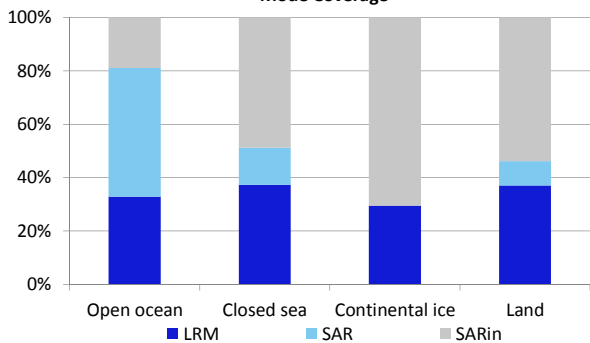
Global Coverage



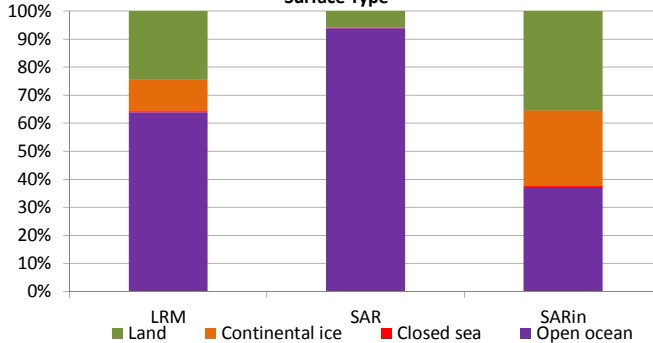
Mode Coverage(%)

	LRM	63.79
	SAR	21.82
	SARin	14.24

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

### 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: 0

#### 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: 3

Product	Test Failed
CS_OFFL_SIR_LRM_1B_20120921T054259_20120921T060303_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_1B_20120921T175720_20120921T180522_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_SIN_1B_20120921T115850_20120921T120022_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: 4

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20120921T003924_20120921T005409_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_LRM_1B_20120921T024450_20120921T025125_B001	TRK echo error	The tracking echo has returned an error
CS_OFFL_SIR_LRM_1B_20120921T025149_20120921T025530_B001	TRK echo error	The tracking echo has returned an error
CS_OFFL_SIR_SAR_1B_20120921T005410_20120921T005612_B001	Attitude correction missing	The attitude has not been corrected

### 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: 1

Product	AUX File	Comment
CS_OFFL_SIR_GDR_2A_20120920T231655_20120921T005608_B001	CS_OPER_AUX_ORBDOR_20120919T215525_20120921T002325_0001	Coverage missing for intervals [2012-09-21T00:23:25, 2012-09-21T00:56:08]

#### 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: 3

Product	Test Failed
CS_OFFL_SIR_LRM_2_20120921T054259_20120921T060303_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_2_20120921T175720_20120921T180522_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_SIN_2_20120921T115850_20120921T120022_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: 0

## 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	37	33	0	33	0
SIR_LRM_1B	131	127	91	36	0
SIR_LRM_2	117	129	0	129	0
SIR_SAR_1B	80	79	0	79	0
SIR_SAR_2A	73	80	2	78	0
SIR_SIN_1B	105	97	0	97	0
SIR_SIN_2	93	103	0	103	0

### 6.1 QCC Errors

Number of products with QCC errors: 0

### 6.2 Missing QCC Reports

Number of products with missing QCC reports: 18

Product name
CS_OFFL_SIR_GDR_2A_20120920T231655_20120921T005608_B001
CS_OFFL_SIR_LRM_1B_20120920T234752_20120921T002059_B001
CS_OFFL_SIR_LRM_1B_20120921T103620_20120921T111005_B001
CS_OFFL_SIR_LRM_1B_20120921T114322_20120921T115748_B001
CS_OFFL_SIR_LRM_1B_20120921T120022_20120921T120829_B001
CS_OFFL_SIR_LRM_2_20120920T234752_20120921T002059_B001
CS_OFFL_SIR_LRM_2_20120921T020107_20120921T020212_B001
CS_OFFL_SIR_SAR_1B_20120921T093258_20120921T093424_B001
CS_OFFL_SIR_SIN_1B_20120921T043647_20120921T043714_B001
CS_OFFL_SIR_SIN_1B_20120921T044132_20120921T044607_B001
CS_OFFL_SIR_SIN_1B_20120921T070356_20120921T070741_B001
CS_OFFL_SIR_SIN_1B_20120921T085158_20120921T085322_B001
CS_OFFL_SIR_SIN_1B_20120921T090106_20120921T090313_B001
CS_OFFL_SIR_SIN_1B_20120921T093424_20120921T093516_B001
CS_OFFL_SIR_SIN_1B_20120921T174137_20120921T174756_B001
CS_OFFL_SIR_SIN_1B_20120921T234055_20120921T234421_B001
CS_OFFL_SIR_SIN_2_20120921T003647_20120921T003821_B001
CS_OFFL_SIR_SIN_2_20120921T073020_20120921T073354_B001