

## 1. Overview

<b>Report Production Date:</b>	22-May-2014
<b>Data Used:</b>	OFFLINE L1B and L2 Science Data

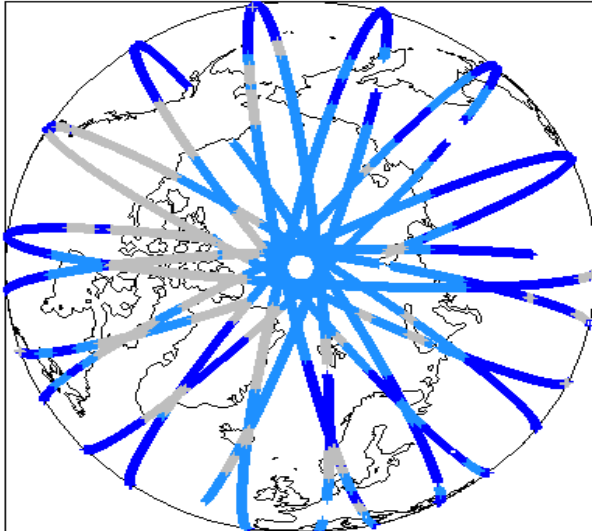
Check	Status
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	Nominal
Auxiliary Data File Usage	See Section 5.3
Auxiliary Correction Check	See Section 4.4 and 5.4
Measurement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

### Mission / Instrument News

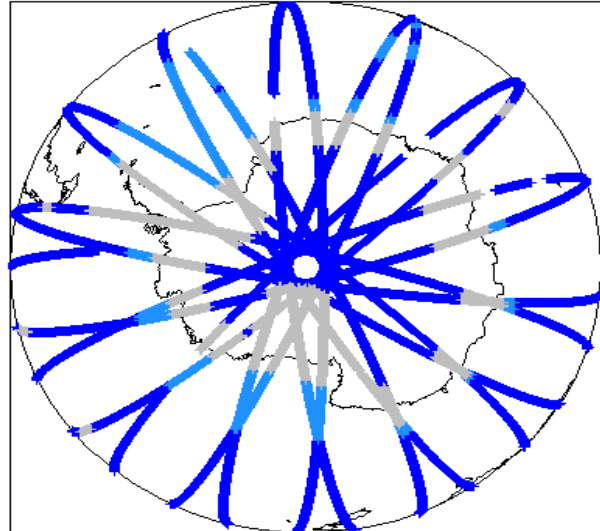
02-Apr-2012	None
03-Apr-2012	None
04-Apr-2012	Nothing planned

## 2. Global Coverage

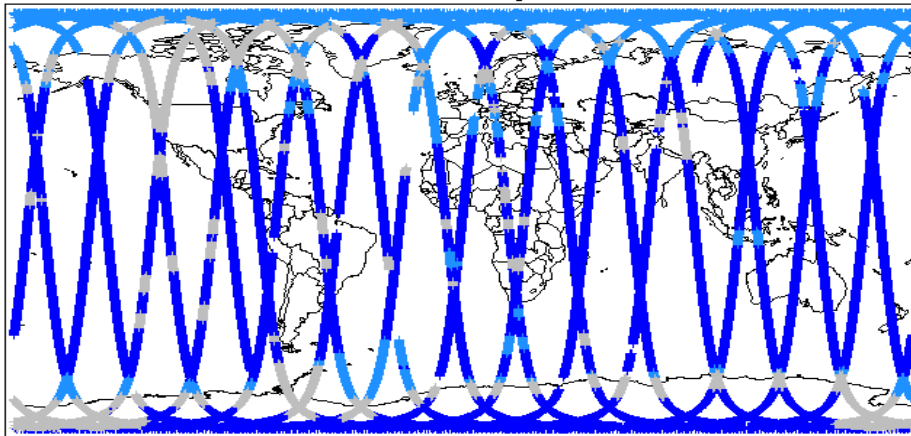
Global Coverage (north pole view)



Global Coverage (south pole view)



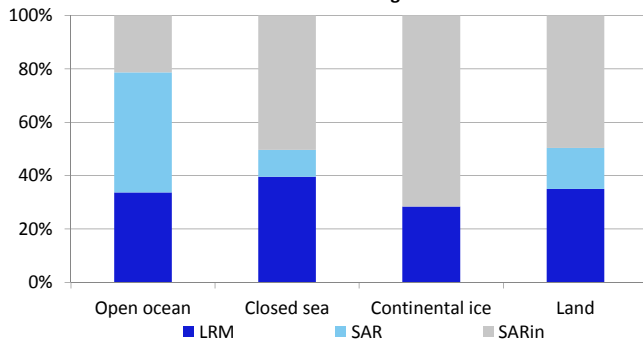
Global Coverage



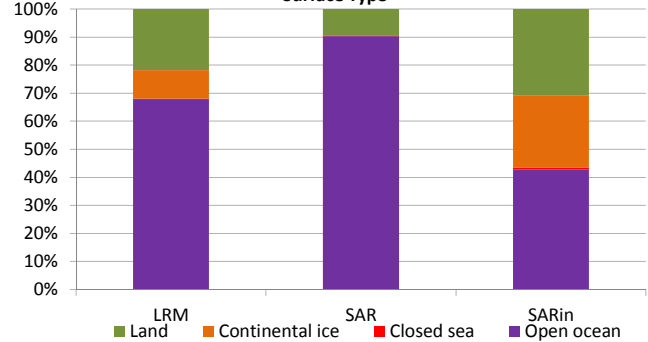
Mode Coverage (%)

	LRM	68.87
	SAR	16.50
	SARin	14.46

Mode Coverage



Surface Type



## 3. Instrument Configuration

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

<b>SIRAL instrument(s) in use:</b>	SIRAL - A
<b>Star Tracker(s) in use:</b>	Star Tracker 1

## 4. 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 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: 4

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20120402T235804_20120403T003245_B001	Dynamic atmosphere correction error	Due to a configuration issue with the handling of Auxiliary Files, products crossing a 6h time boundary are missing the Dynamic Atmospheric correction (CRYO-IDE-161).
CS_OFFL_SIR_LRM_1B_20120403T055401_20120403T060857_B001	Dynamic atmosphere correction error	Due to a configuration issue with the handling of Auxiliary Files, products crossing a 6h time boundary are missing the Dynamic Atmospheric correction (CRYO-IDE-161).
CS_OFFL_SIR_SIN_1B_20120403T115838_20120403T120212_B001	Dynamic atmosphere correction error	Due to a configuration issue with the handling of Auxiliary Files, products crossing a 6h time boundary are missing the Dynamic Atmospheric correction (CRYO-IDE-161).
CS_OFFL_SIR_SIN_1B_20120403T175918_20120403T180238_B001	Dynamic atmosphere correction error	Due to a configuration issue with the handling of Auxiliary Files, products crossing a 6h time boundary are missing the Dynamic Atmospheric correction (CRYO-IDE-161).

### 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: 5

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20120403T040720_20120403T041205_B001	TRK echo error	The tracking echo has returned an error
CS_OFFL_SIR_LRM_1B_20120403T164446_20120403T164817_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_LRM_1B_20120403T182453_20120403T182732_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_SIN_1B_20120403T164818_20120403T164922_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_SIN_1B_20120403T182732_20120403T182834_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 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_20120403T232604_20120404T010517_B001	CS_OPER_AUX_ORBDOR_20120402T215526_20120404T002326_0001	Coverage missing for intervals [2012-04-04T00:23:26, 2012-04-04T01:05:17]

### 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	Description
CS_OFFL_SIR_LRM_2_20120402T235804_20120403T003245_B001	Dynamic atmosphere correction error	Due to a configuration issue with the handling of Auxiliary Files, products crossing a 6h time boundary are missing the Dynamic Atmospheric correction (CRYO-IDE-161).
CS_OFFL_SIR_LRM_2_20120403T055401_20120403T060857_B001	Dynamic atmosphere correction error	Due to a configuration issue with the handling of Auxiliary Files, products crossing a 6h time boundary are missing the Dynamic Atmospheric correction (CRYO-IDE-161).
CS_OFFL_SIR_SIN_2_20120403T115838_20120403T120212_B001	Dynamic atmosphere correction error	Due to a configuration issue with the handling of Auxiliary Files, products crossing a 6h time boundary are missing the Dynamic Atmospheric correction (CRYO-IDE-161).
CS_OFFL_SIR_SIN_2_20120403T175918_20120403T180238_B001	Dynamic atmosphere correction error	Due to a configuration issue with the handling of Auxiliary Files, products crossing a 6h time boundary are missing the Dynamic Atmospheric correction (CRYO-IDE-161).

## 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	26	25	0	25	0
SIR_LRM_1B	139	136	126	10	0
SIR_LRM_2	131	130	0	130	0
SIR_SAR_1B	98	95	0	95	0
SIR_SAR_2A	89	89	3	86	0
SIR_SIN_1B	113	111	0	111	0
SIR_SIN_2	104	104	0	104	0

### 6.1 QCC Errors

Number of products with QCC errors: 0

### 6.2 Missing QCC Reports

Number of products with missing QCC reports: 11

Product name
CS_OFFL_SIR_GDR_2A_20120402T223740_20120403T001654_B001
CS_OFFL_SIR_LRM_1B_20120402T235804_20120403T003245_B001
CS_OFFL_SIR_LRM_1B_20120403T030526_20120403T031346_B001
CS_OFFL_SIR_LRM_1B_20120403T134737_20120403T134852_B001
CS_OFFL_SIR_LRM_1B_20120403T182834_20120403T183726_B001
CS_OFFL_SIR_LRM_2_20120402T235804_20120403T003245_B001
CS_OFFL_SIR_SAR_1B_20120403T103259_20120403T103342_B001
CS_OFFL_SIR_SAR_1B_20120403T180927_20120403T180958_B001
CS_OFFL_SIR_SAR_1B_20120403T184640_20120403T184832_B001
CS_OFFL_SIR_SIN_1B_20120403T081227_20120403T081507_B001
CS_OFFL_SIR_SIN_1B_20120403T162032_20120403T162347_B001