

### 1. Overview

<b>Report Production Date:</b>	24-May-2013
<b>Data Used:</b>	OFFLINE L1B and L2 Science Data

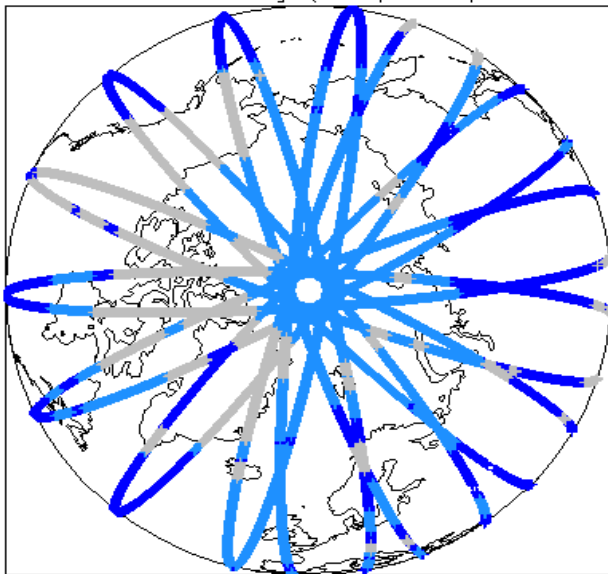
Check	Status
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	Nominal
Auxiliary Data File Usage	See Section 5.3
Auxiliary Correction Check	See Section 4.5 and 5.4
Measurement Data Set Check	See Section 4.6

#### Mission / Instrument News

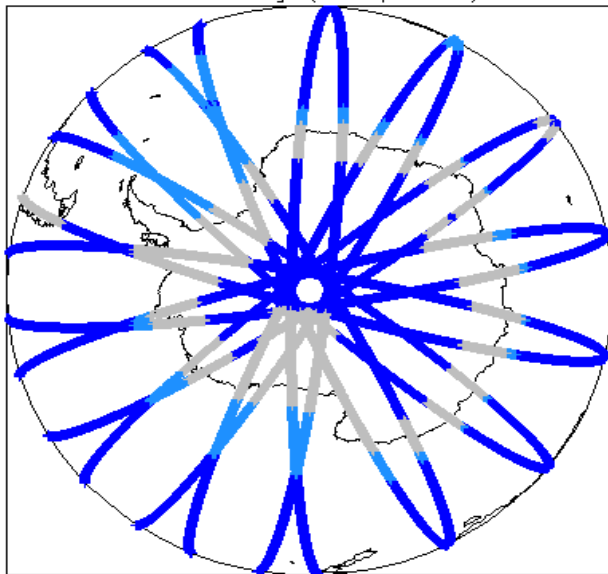
16-Apr-2013	None
17-Apr-2013	None
18-Apr-2013	Nothing planned

### 2. Global Coverage

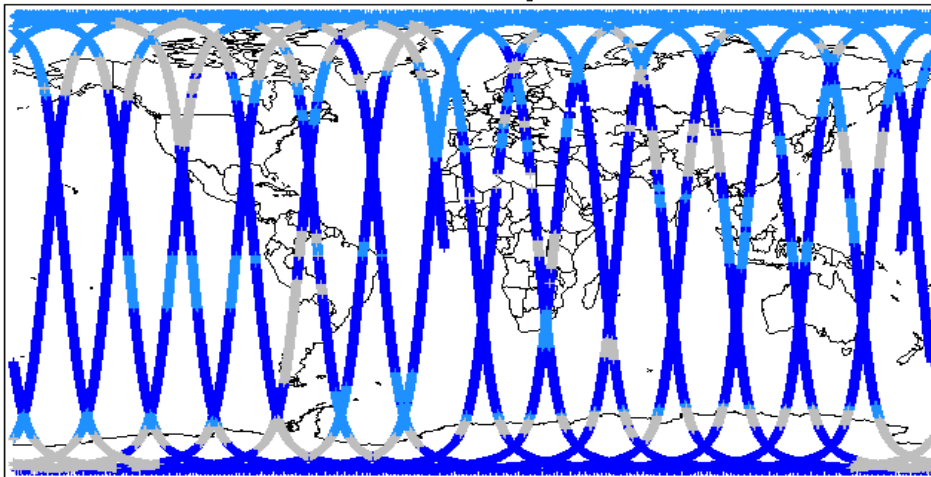
Global Coverage (north pole view)



Global Coverage (south pole view)



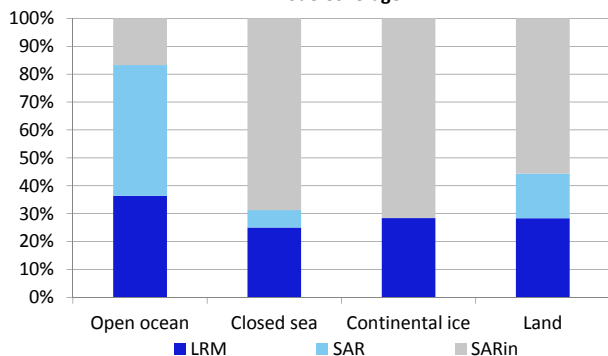
Global Coverage



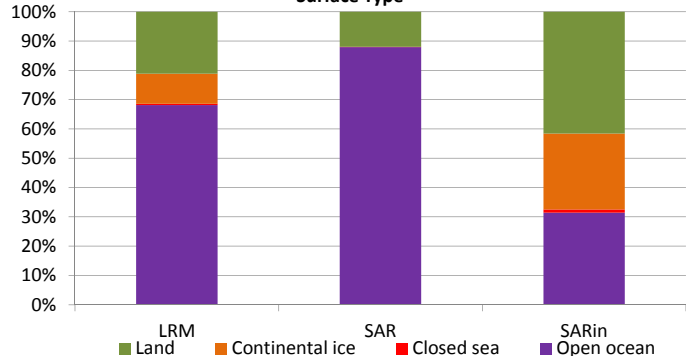
Mode Coverage(%)

LRM	64.95
SAR	21.21
SIN	13.65

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 2

### 4. Level 1B Data Quality Check

#### 4.1 L1B Software Version Check

N.b. There were a number of orders processed prior to the installation of the new IPF1 Vk2.0, IPF2 Vk1.0. The affected L1B products, listed below, have the old software version referenced in the product header.

Number of products with errors: 0

#### 4.2 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

#### 4.3 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

#### 4.4 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

#### 4.5 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_20130416T235627_20130417T000902_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_1B_20130417T054229_20130417T060442_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_1B_20130417T175410_20130417T181508_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_SAR_1B_20130417T115258_20130417T120419_B001	Dynamic atmosphere correction error

#### 4.6 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_20130417T031400_20130417T031659_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_LRM_1B_20130417T212219_20130417T212825_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_SAR_1B_20130417T031702_20130417T031827_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_SIN_1B_20130417T031700_20130417T031701_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_SIN_1B_20130417T212825_20130417T213003_B001	Attitude correction missing	The attitude has not been corrected

### 5. Level 2 Data Quality Check

#### 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_20130416T235957_20130417T013911_B001	CS_OPER_AUX_ORBDOR_20130415T215525_20130417T002325_0001	Coverage missing for intervals [2013-04-17T00:23:25, 2013-04-17T01:39:10]

## 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_20130416T235627_20130417T000902_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_2_20130417T054229_20130417T060442_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_2_20130417T175410_20130417T181508_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_SAR_2A_20130417T115258_20130417T120419_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	19	17	0	17	0
SIR_LRM_1B	143	142	109	33	0
SIR_LRM_2	143	142	0	142	0
SIR_SAR_1B	183	178	0	178	0
SIR_SAR_2A	121	121	4	117	0
SIR_SIN_1B	104	104	0	104	0
SIR_SIN_2	101	101	0	101	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_20130416T235957_20130417T013911_B001
CS_OFFL_SIR_LRM_1B_20130416T235627_20130417T000902_B001
CS_OFFL_SIR_LRM_2_20130416T235627_20130417T000902_B001
CS_OFFL_SIR_SAR_1B_20130417T134458_20130417T134532_B001
CS_OFFL_SIR_SAR_2A_20130417T070020_20130417T070757_B001
CS_OFFL_SIR_SAR_2A_20130417T075604_20130417T075752_B001
CS_OFFL_SIR_SAR_2A_20130417T080913_20130417T081442_B001
CS_OFFL_SIR_SAR_2A_20130417T083539_20130417T084312_B001
CS_OFFL_SIR_SAR_2A_20130417T084338_20130417T084834_B001
CS_OFFL_SIR_SAR_2A_20130417T085227_20130417T085424_B001
CS_OFFL_SIR_SAR_2A_20130417T091247_20130417T091640_B001
CS_OFFL_SIR_SAR_2A_20130417T093443_20130417T093709_B001
CS_OFFL_SIR_SAR_2A_20130417T101052_20130417T101137_B001
CS_OFFL_SIR_SAR_2A_20130417T101146_20130417T102238_B001
CS_OFFL_SIR_SIN_2_20130417T051551_20130417T052107_B001
CS_OFFL_SIR_SIN_2_20130417T053640_20130417T054002_B001
CS_OFFL_SIR_SIN_2_20130417T060536_20130417T060808_B001
CS_OFFL_SIR_SIN_2_20130417T064715_20130417T065744_B001