

1. Overview

Report Production Date:	13-May-2013
Data Used:	OFFLINE L1B and L2 Science Data

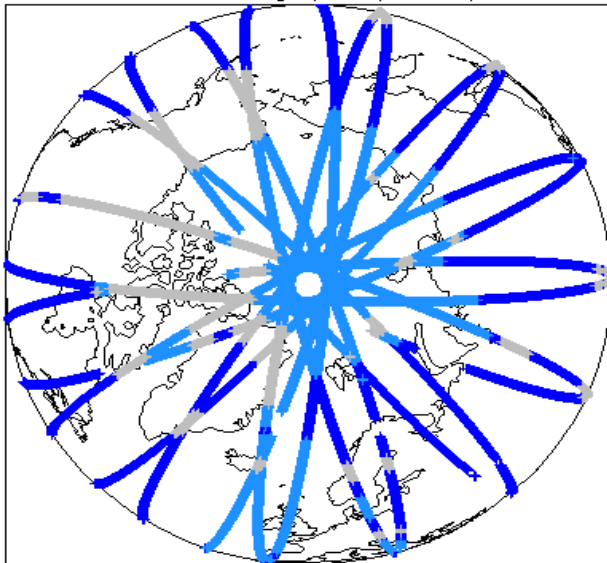
Check	Status
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	See Section 4.2
Auxiliary Data File Usage	See Section 5.3
Auxiliary Correction Check	See Section 4.4 and 5.4
Measurement Data Set Check	See Section 4.5

Mission / Instrument News

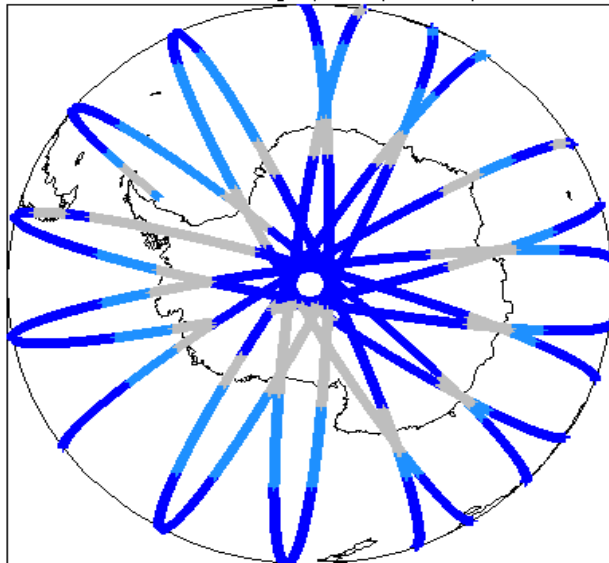
17-Aug-2012	None
18-Aug-2012	None
19-Aug-2012	Nothing planned

2. Global Coverage

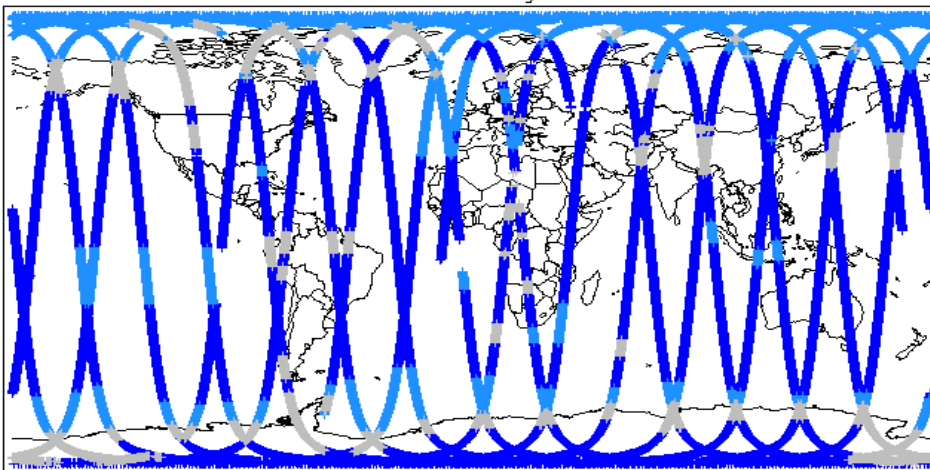
Global Coverage (north pole view)



Global Coverage (south pole view)



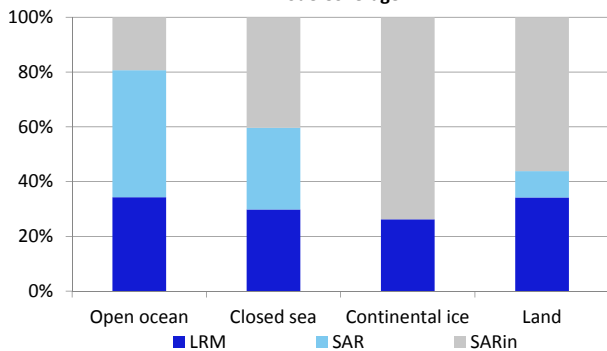
Global Coverage



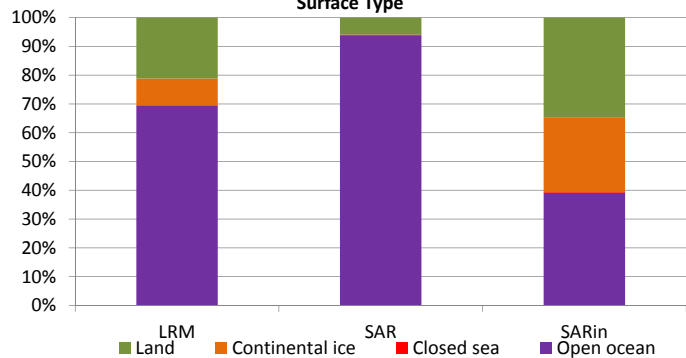
Mode Coverage(%)

	LRM	66.32
	SAR	20.81
	SARin	12.70

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 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: 4

Product	Test Failed
CS_OFFL_SIR_LRM_1B_20120818T064520_20120818T065429_B001.DBL	L0 gaps significance flag should not be set
CS_OFFL_SIR_LRM_1B_20120818T071529_20120818T071531_B001.DBL	L0 gaps significance flag should not be set
CS_OFFL_SIR_LRM_1B_20120818T071646_20120818T071654_B001.DBL	L0 gaps significance flag should not be set
CS_OFFL_SIR_LRM_1B_20120818T071737_20120818T071738_B001.DBL	L0 gaps significance flag should not be set

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_20120818T055236_20120818T060339_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_1B_20120818T175218_20120818T180306_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_SAR_1B_20120818T115622_20120818T120412_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_20120818T152129_20120818T153018_B001	TRK echo error	The tracking echo has returned an error
CS_OFFL_SIR_LRM_1B_20120818T161812_20120818T162748_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_LRM_1B_20120818T220041_20120818T220453_B001	TRK echo error	The tracking echo has returned an error
CS_OFFL_SIR_SIN_1B_20120818T162748_20120818T163058_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_20120818T230738_20120819T004652_B001	CS_OPER_AUX_ORBDOR_20120817T215525_20120819T002325_0001	Coverage missing for intervals [2012-08-19T00:23:25, 2012-08-19T00:46:52]

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_20120818T055236_20120818T060339_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_2_20120818T175218_20120818T180306_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_SAR_2A_20120818T115622_20120818T120412_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	39	39	0	39	0
SIR_LRM_1B	123	131	115	16	0
SIR_LRM_2	101	109	1	108	0
SIR_SAR_1B	80	83	0	83	0
SIR_SAR_2A	75	77	4	73	0
SIR_SIN_1B	92	95	0	95	0
SIR_SIN_2	87	93	0	93	0

6.1 QCC Errors

Number of products with QCC errors: 2

Test Description Key:

Abbreviation	Test name	Details
SPHDTO	SPHDownlinkTimeOrder	Error in the downlink UTC start time

QCC Errors: See the following report.

Product Type	Product Start Time	Error
SIR1TKSIO	CS_OPER_AUX_REP_QC_20120818T111938_SIR1TKSIO_20120818T070228	SPHDTO
SIR1TKSIO	CS_OPER_AUX_REP_QC_20120818T112027_SIR1TKSIO_20120818T071211	SPHDTO

6.2 Missing QCC Reports

Number of products with missing QCC reports: 18

Product name
CS_OFFL_SIR_GDR_2A_20120817T235828_20120818T013741_B001
CS_OFFL_SIR_LRM_1B_20120817T234123_20120818T000607_B001
CS_OFFL_SIR_LRM_1B_20120818T064520_20120818T065429_B001
CS_OFFL_SIR_LRM_1B_20120818T071646_20120818T071654_B001
CS_OFFL_SIR_LRM_1B_20120818T223822_20120818T224333_B001
CS_OFFL_SIR_LRM_2_20120817T234123_20120818T000607_B001
CS_OFFL_SIR_LRM_2_20120818T014713_20120818T015645_B001
CS_OFFL_SIR_LRM_2_20120818T052740_20120818T052745_B001
CS_OFFL_SIR_SAR_1B_20120818T015645_20120818T020408_B001
CS_OFFL_SIR_SAR_2A_20120818T033655_20120818T033829_B001
CS_OFFL_SIR_SAR_2A_20120818T100517_20120818T100613_B001
CS_OFFL_SIR_SAR_2A_20120818T110032_20120818T110402_B001
CS_OFFL_SIR_SAR_2A_20120818T212133_20120818T212736_B001
CS_OFFL_SIR_SIN_1B_20120818T010853_20120818T011101_B001
CS_OFFL_SIR_SIN_1B_20120818T025233_20120818T025320_B001
CS_OFFL_SIR_SIN_2_20120818T002955_20120818T003022_B001
CS_OFFL_SIR_SIN_2_20120818T014533_20120818T014713_B001
CS_OFFL_SIR_SIN_2_20120818T221045_20120818T221047_B001