1. Overview

Report Production Date:	22-May-2014
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	**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**

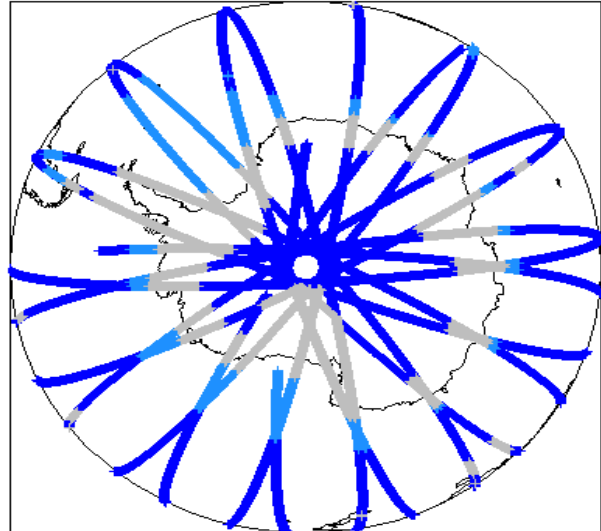| Mission / Instrument News	
01-Apr-2012	None
02-Apr-2012	None
03-Apr-2012	Nothing planned

2. Global Coverage

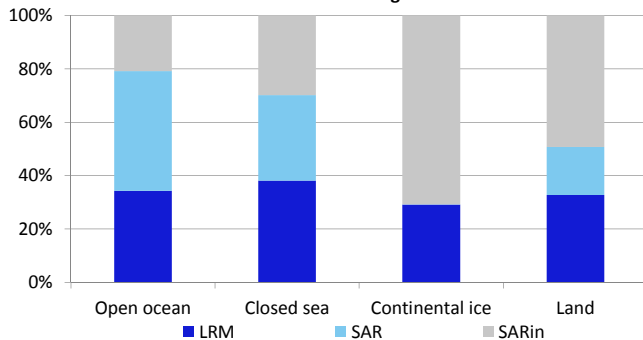Global Coverage (north pole view)
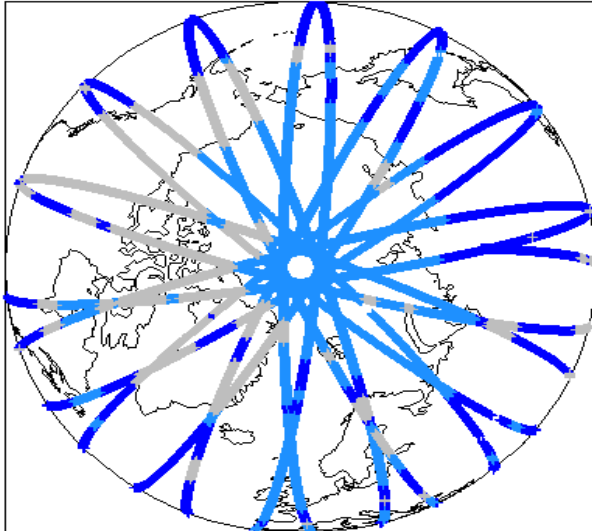
Global Coverage (south pole view)

Global Coverage
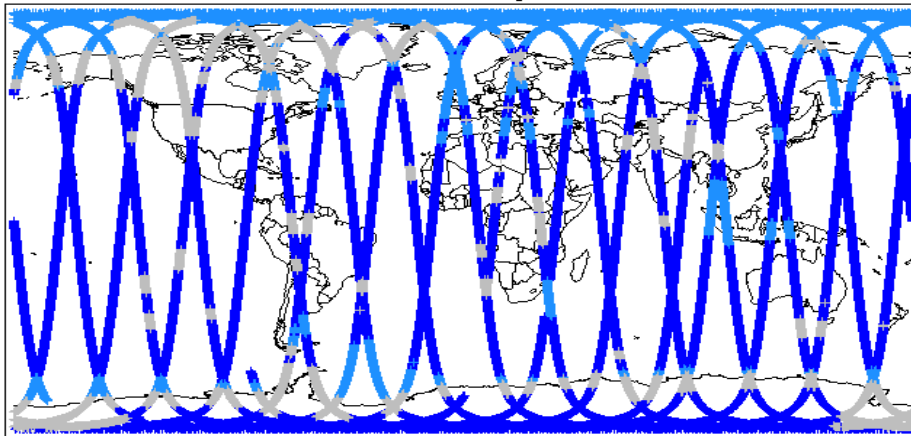
Mode Coverage (%)		
LRM		67.84
SAR		17.24
SIN		14.73

Mode Coverage

Surface Type
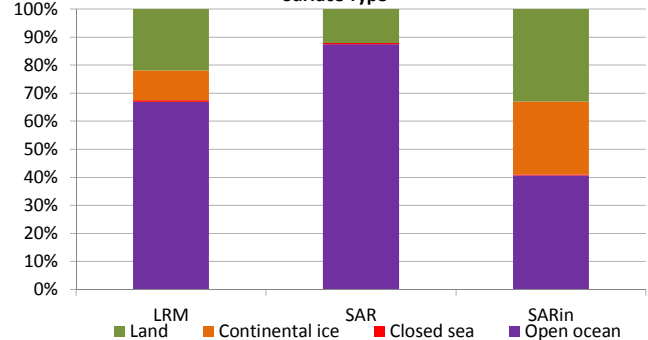
3. Instrument Configuration

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 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 Auxilary 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_20120401T235725_20120402T000343_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_20120402T054717_20120402T062032_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_20120402T113850_20120402T121135_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_SAR_1B_20120402T175943_20120402T180206_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: 3

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20120402T091227_20120402T092151_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_LRM_1B_20120402T113850_20120402T121135_B001	TRK echo error	The tracking echo has returned an error
CS_OFFL_SIR_SAR_1B_20120402T092151_20120402T092353_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_20120401T232830_20120402T010744_B001	CS_OPER_AUX_ORBDOR_20120331T215526_2012040 2T002326_0001	Coverage missing for intervals [2012-04-02T00:23:26, 2012-04-02T01:07:44]

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__20120401T235725_20120402T000343_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__20120402T054717_20120402T062032_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__20120402T113850_20120402T121135_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_SAR_2A_20120402T175943_20120402T180206_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: 1

Product	Test Failed	Description
CS_OFFL_SIR_SAR_2A_20120402T222432_20120402T222646_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	19	13	0	13	0
SIR_LRM_1B	153	152	144	8	0
SIR_LRM_2	151	150	3	147	0
SIR_SAR_1B	91	88	0	88	0
SIR_SAR_2A	89	89	7	82	0
SIR_SIN_1B	114	114	0	114	0
SIR_SIN_2	110	110	0	110	0

6.1 QCC Errors

Number of products with QCC errors: 0

6.2 Missing QCC Reports

Number of products with missing QCC reports: 10

Product name
CS_OFFL_SIR_GDR_2A_20120401T232830_20120402T010744_B001
CS_OFFL_SIR_GDR_2A_20120402T092352_20120402T110305_B001
CS_OFFL_SIR_GDR_2A_20120402T110305_20120402T124219_B001
CS_OFFL_SIR_GDR_2A_20120402T142133_20120402T160046_B001
CS_OFFL_SIR_GDR_2A_20120402T223740_20120403T001654_B001
CS_OFFL_SIR_LRM_1B_20120401T235725_20120402T000343_B001
CS_OFFL_SIR_LRM_2__20120401T235725_20120402T000343_B001
CS_OFFL_SIR_SAR_1B_20120402T003534_20120402T003609_B001
CS_OFFL_SIR_SAR_1B_20120402T030618_20120402T031353_B001
CS_OFFL_SIR_SAR_1B_20120402T044139_20120402T044202_B001