1. Overview

Report Production Date:	05-Jun-2013
Data Used:	OFFLINE L1B and L2 Science Data

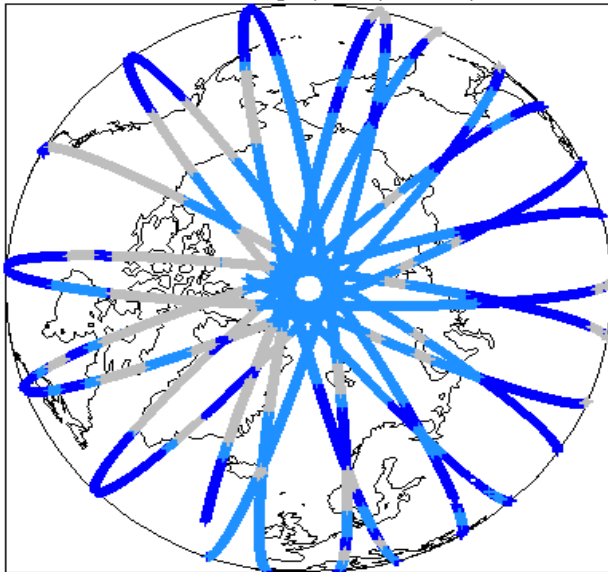| Check	Status
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	Nominal
Auxiliary Data File Usage	See Section 5.3
Auxiliary Correction Check	See Section 4.5 and 5.4
Measurement Data Set Check	See Section 4.6 and 5.5

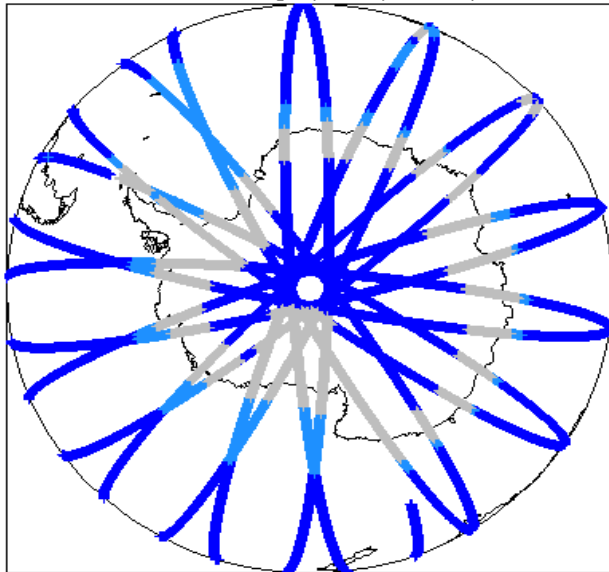| Mission / Instrument News	
28-Apr-2013	None
29-Apr-2013	None
30-Apr-2013	Nothing planned

2. Global Coverage

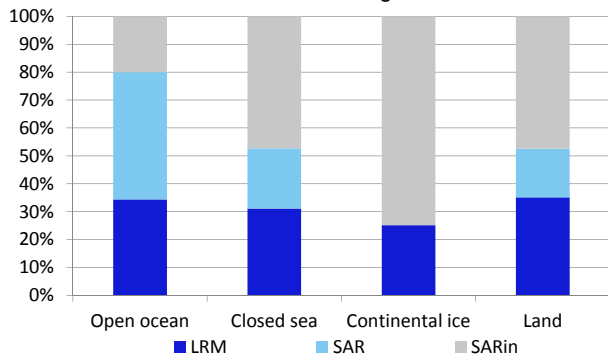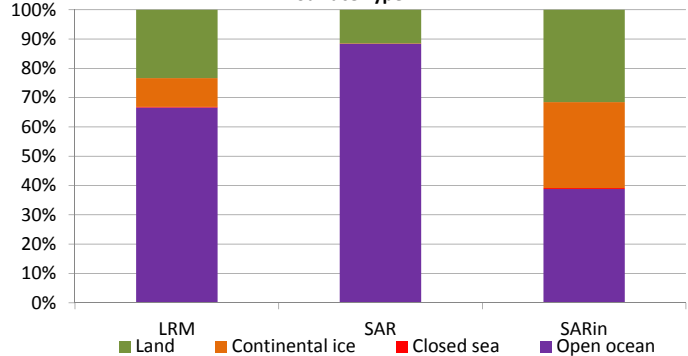Global Coverage (north pole view)   Global Coverage (south pole view)

Global Coverage
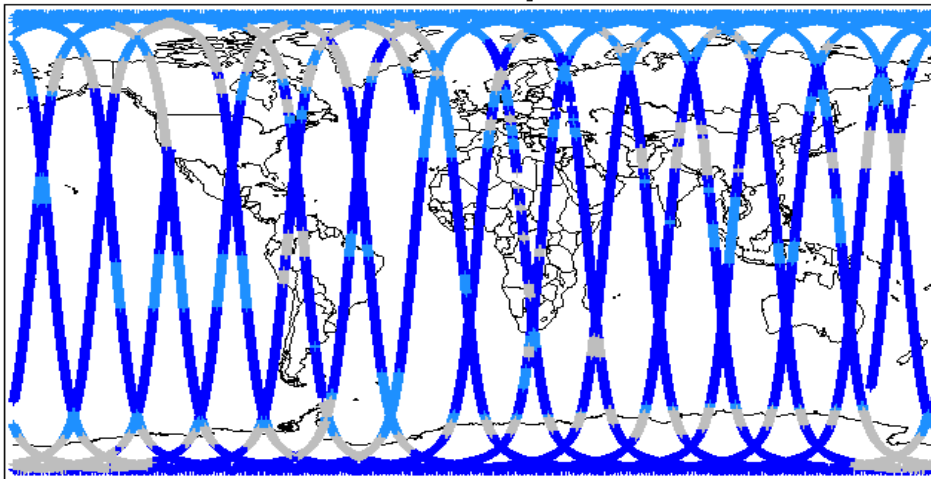
Mode Coverage(%)		
	LRM	66.71
	SAR	20.40
	SIN	12.71

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 & 3

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_20130428T232706_20130429T000321_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_1B_20130429T055312_20130429T060045_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_1B_20130429T173917_20130429T180308_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_SAR_1B_20130429T115138_20130429T120019_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: 4

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20130429T001603_20130429T001616_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_LRM_1B_20130429T083942_20130429T085134_B001	TRK echo error	The tracking echo has returned an error
CS_OFFL_SIR_LRM_1B_20130429T142043_20130429T143610_B001	TRK echo error	The tracking echo has returned an error
CS_OFFL_SIR_SAR_1B_20130429T000827_20130429T001603_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: 2

Product	AUX File	Comment
CS_OFFL_SIR_GDR_2A_20130428T234518_20130429T012432_B002	CS_OPER_AUX_ORBDOR_20130427T215525_20130429T002325_0001	Coverage missing for intervals [2013-04-29T00:23:25, 2013-04-29T01:24:32]
CS_OFFL_SIR_GDR_2A_20130429T225428_20130430T003342_B001	CS_OPER_AUX_ORBDOR_20130428T215525_20130430T002325_0002	Coverage missing for intervals [2013-04-30T00:23:25, 2013-04-30T00:33:42]

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__20130428T232706_20130429T000321_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_2__20130429T055312_20130429T060045_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_2__20130429T173917_20130429T180308_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_SAR_2A_20130429T115138_20130429T120019_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: 1

Product	Test Failed	Description
CS_OFFL_SIR_SAR_2A_20130429T083214_20130429T083339_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	17	14	0	14	0
SIR_LRM_1B	144	142	102	40	0
SIR_LRM_2	140	139	0	139	0
SIR_SAR_1B	164	164	0	164	0
SIR_SAR_2A	119	119	4	115	0
SIR_SIN_1B	101	97	0	97	0
SIR_SIN_2	93	93	0	93	0

6.1 QCC Errors

Number of products with QCC errors: 0

6.2 Missing QCC Reports

Number of products with missing QCC reports: 13

Product name
CS_OFFL_SIR_GDR_2A_20130428T234518_20130429T012432_B002
CS_OFFL_SIR_LRM_1B_20130428T232706_20130429T000321_B001
CS_OFFL_SIR_LRM_1B_20130429T211555_20130429T211843_B001
CS_OFFL_SIR_LRM_1B_20130429T212734_20130429T212805_B001
CS_OFFL_SIR_LRM_1B_20130429T212837_20130429T212949_B001
CS_OFFL_SIR_LRM_2__20130428T232706_20130429T000321_B001
CS_OFFL_SIR_SAR_1B_20130429T000827_20130429T001603_B001
CS_OFFL_SIR_SAR_1B_20130429T184737_20130429T185307_B001
CS_OFFL_SIR_SIN_1B_20130429T181850_20130429T181909_B001
CS_OFFL_SIR_SIN_1B_20130429T190638_20130429T190759_B001
CS_OFFL_SIR_SIN_1B_20130429T190840_20130429T191041_B001
CS_OFFL_SIR_SIN_1B_20130429T191642_20130429T191813_B001
CS_OFFL_SIR_SIN_1B_20130429T192358_20130429T192551_B001