IDEAS Daily Report for OFFLINE data: 02/09/2012

1. Overview

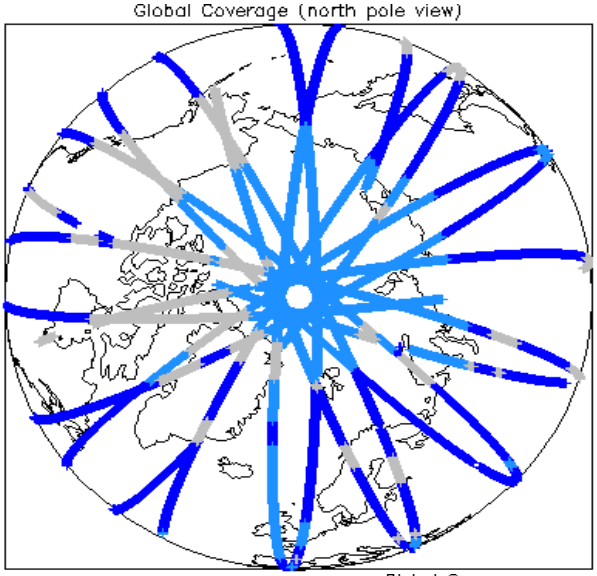
Report Production Date:	17-Apr-2013
Data Used:	OFFLINE L1B and L2 Science Data

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 4.4 and 5.4
Measurement Data Set Check	See Section 4.5

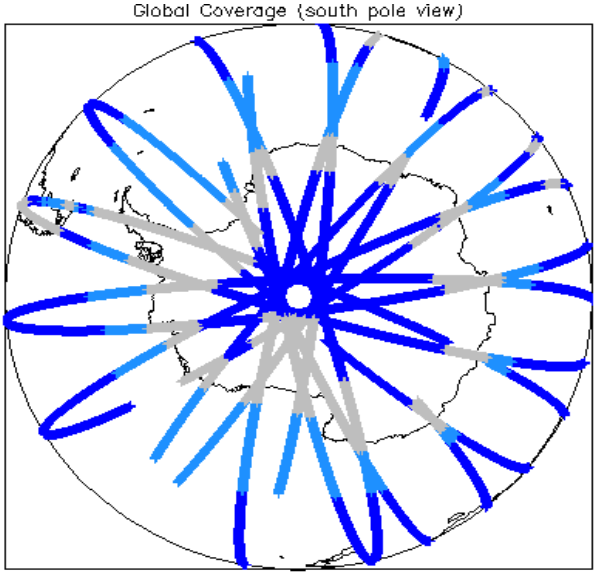
Mission / Instrument News	
01-Sep-2012	None
02-Sep-2012	None
03-Sep-2012	Nothing planned

2. Global Coverage

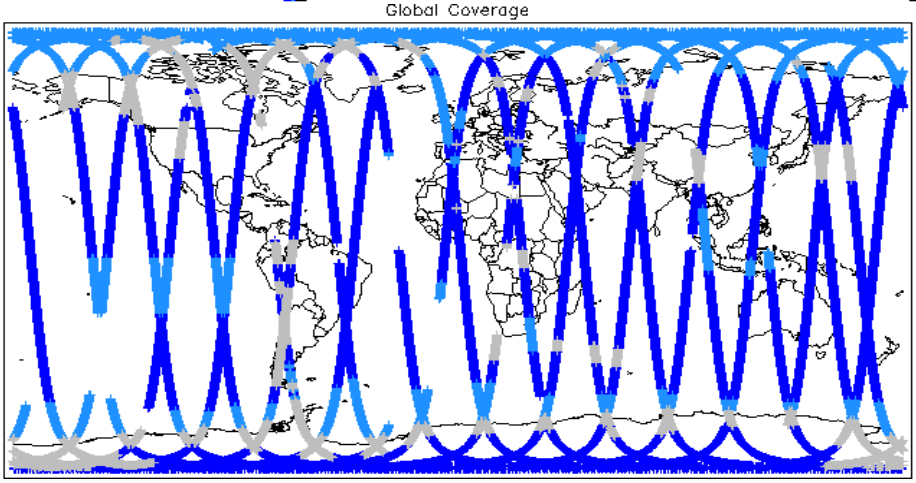
Global Coverage (north pole view)



Global Coverage (south pole view)

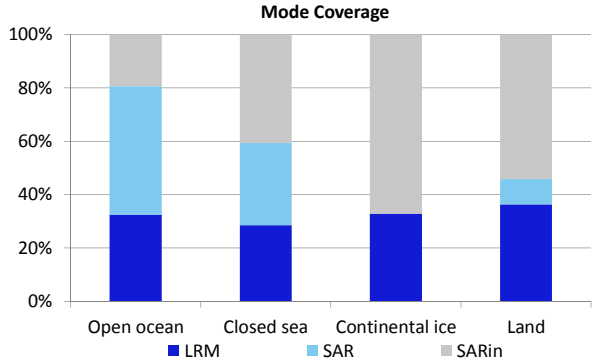


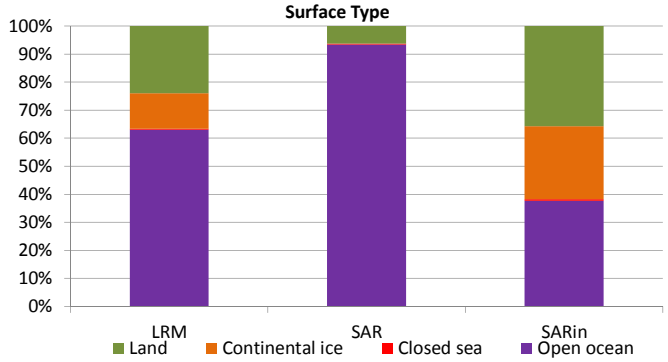
Global Coverage



Mode Coverage(%)

	LRM	65.95
	SAR	19.75
	SIN	14.13





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: 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: 3

Product	Test Failed
CS_OFFL_SIR_LRM_1B_20120902T114853_20120902T121453_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_1B_20120902T174350_20120902T180226_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_SIN_1B_20120902T055945_20120902T060108_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: 9

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20120902T022021_20120902T022837_B001	TRK echo error	The tracking echo has returned an error
CS_OFFL_SIR_LRM_1B_20120902T042031_20120902T043835_B001	TRK echo error	The tracking echo has returned an error
CS_OFFL_SIR_LRM_1B_20120902T060108_20120902T060242_B001	TRK echo error	The tracking echo has returned an error
CS_OFFL_SIR_LRM_1B_20120902T072139_20120902T072835_B001	TRK echo error	The tracking echo has returned an error
CS_OFFL_SIR_LRM_1B_20120902T083829_20120902T084403_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_LRM_1B_20120902T123437_20120902T124213_B001	TRK echo error	The tracking echo has returned an error
CS_OFFL_SIR_SIN_1B_20120902T041557_20120902T041559_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_SIN_1B_20120902T084403_20120902T084555_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_SIN_1B_20120902T205034_20120902T205049_B001	TRK echo error	The tracking echo has returned an error

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: 2

Product	AUX File	Comment
CS_OFFL_SIR_GDR_2A_20120901T225033_20120902T002947_B001	CS_OPER_AUX_ORBDOR_20120831T215525_20120902T002325_0001	Coverage missing for intervals [2012-09-02T00:23:25, 2012-09-02T00:29:47]
CS_OFFL_SIR_GDR_2A_20120902T233857_20120903T011810_B001	CS_OPER_AUX_ORBDOR_20120901T215525_20120903T002325_0001	Coverage missing for intervals [2012-09-03T00:23:25, 2012-09-03T01:18:10]

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: 2

Product	Test Failed
CS_OFFL_SIR_LRM_2__20120902T072139_20120902T072835_B001	Error in MSS/Geoid, and Ocean Depth Land Elevation model, correction computations
CS_OFFL_SIR_LRM_2__20120902T174350_20120902T180226_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	37	38	0	38	0
SIR_LRM_1B	120	114	89	24	1
SIR_LRM_2	110	120	0	120	0
SIR_SAR_1B	81	81	0	81	0
SIR_SAR_2A	77	80	3	77	0
SIR_SIN_1B	101	98	0	98	0
SIR_SIN_2	90	99	0	99	0

6.1 QCC Errors

Number of products with QCC errors: 1

Test Description Key:

Abbreviation	Test name	Details
RRTAISSOB	RangeRecordTAIStartStopOrBlank	The time value should be between the record TAI start/stop times of the SPH

QCC Errors: See the following report.

Product Type	Product Start Time	Error
SIR_LRM_1B	CS_OPER_AUX_REP_QC_20121004T024824_SIR_LRM_1B20120902T205049	RRTAISSOB

6.2 Missing QCC Reports

Number of products with missing QCC reports: 22

Product name
CS_OFFL_SIR_GDR_2A_20120901T225033_20120902T002947_B001
CS_OFFL_SIR_LRM_1B_20120902T023633_20120902T023744_B001
CS_OFFL_SIR_LRM_1B_20120902T025730_20120902T025742_B001
CS_OFFL_SIR_LRM_1B_20120902T025957_20120902T030237_B001
CS_OFFL_SIR_LRM_1B_20120902T051157_20120902T053519_B001
CS_OFFL_SIR_LRM_1B_20120902T053918_20120902T054416_B001
CS_OFFL_SIR_LRM_1B_20120902T063834_20120902T063943_B001
CS_OFFL_SIR_LRM_1B_20120902T083829_20120902T084403_B001
CS_OFFL_SIR_LRM_1B_20120902T151919_20120902T152126_B001
CS_OFFL_SIR_LRM_2__20120902T063834_20120902T063943_B001
CS_OFFL_SIR_LRM_2__20120902T182327_20120902T183423_B001
CS_OFFL_SIR_SAR_1B_20120901T235354_20120902T000043_B001
CS_OFFL_SIR_SAR_1B_20120902T022837_20120902T023523_B001
CS_OFFL_SIR_SAR_2A_20120901T235354_20120902T000043_B001
CS_OFFL_SIR_SAR_2A_20120902T201337_20120902T201940_B001
CS_OFFL_SIR_SIN_1B_20120902T013958_20120902T014207_B001
CS_OFFL_SIR_SIN_1B_20120902T053519_20120902T053918_B001
CS_OFFL_SIR_SIN_1B_20120902T073647_20120902T074109_B001
CS_OFFL_SIR_SIN_1B_20120902T190958_20120902T191127_B001
CS_OFFL_SIR_SIN_2__20120902T041601_20120902T042031_B001
CS_OFFL_SIR_SIN_2__20120902T081658_20120902T082031_B001
CS_OFFL_SIR_SIN_2__20120902T173343_20120902T173505_B001