IDEAS Daily Report for OFFLINE data: 07-Oct-2012

1. Overview

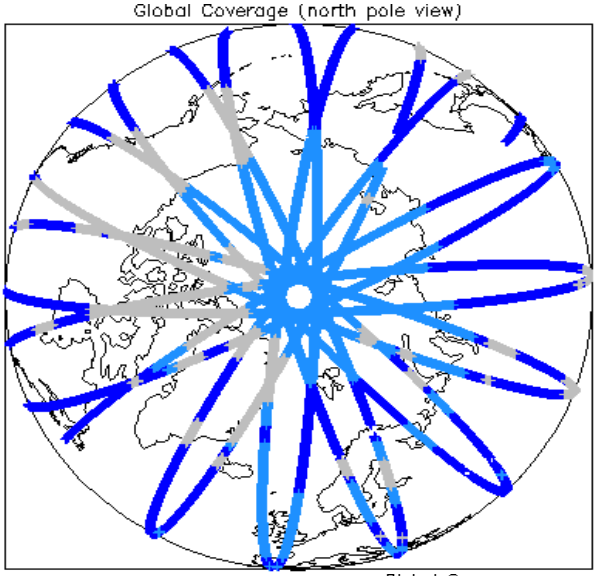
Report Production Date:	25-Mar-2013
Data Used:	OFFLINE L1B and L2 Science Data

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 and 5.5

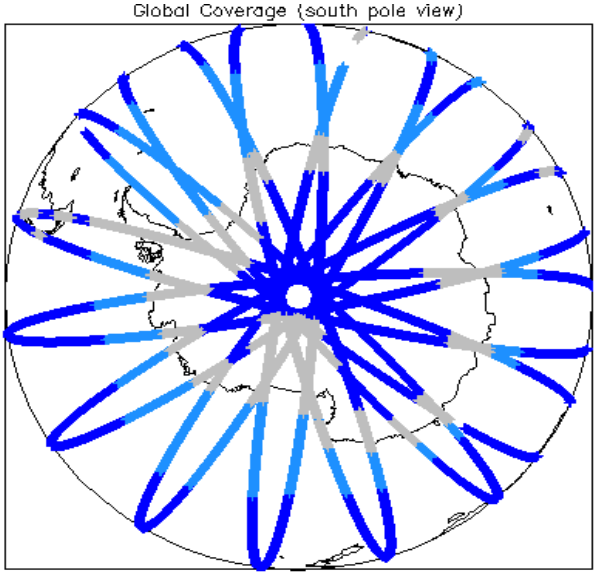
Mission / Instrument News	
06-Oct-2012	None
07-Oct-2012	None
08-Oct-2012	Nothing planned

2. Global Coverage

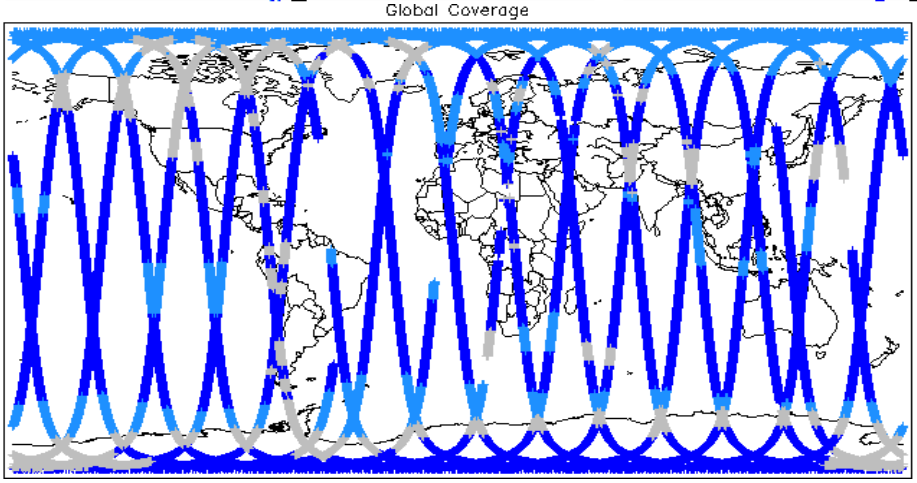
Global Coverage (north pole view)



Global Coverage (south pole view)



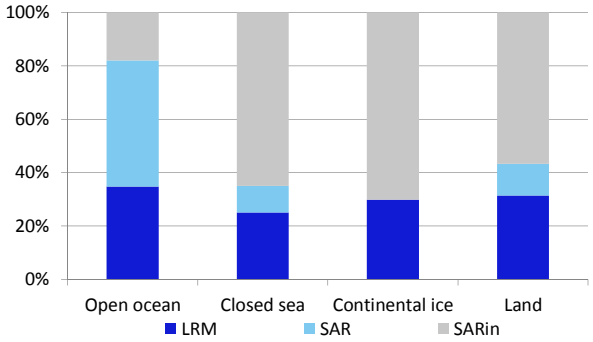
Global Coverage



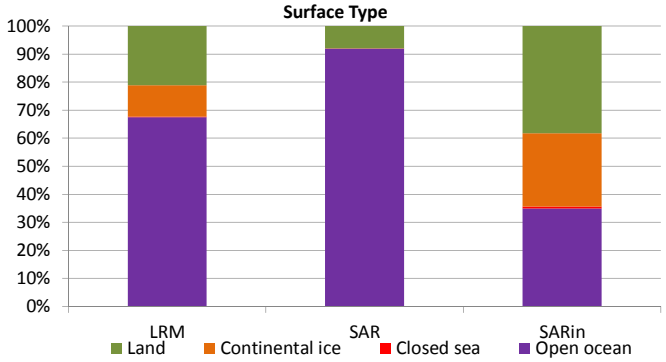
Mode Coverage(%)

	LRM	66.90
	SAR	20.04
	SIN	12.89

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 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: 2

Product	Test Failed
CS_OFFL_SIR_LRM_1B_20121007T174644_20121007T180512_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_SAR_1B_20121007T055543_20121007T060016_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: 7

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20121007T072646_20121007T072715_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_LRM_1B_20121007T134824_20121007T134959_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_LRM_1B_20121007T135701_20121007T140409_B001	TRK echo error	The tracking echo has returned an error
CS_OFFL_SIR_LRM_1B_20121007T174434_20121007T174600_B001	TRK echo error	The tracking echo has returned an error
CS_OFFL_SIR_SAR_1B_20121007T120947_20121007T121120_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_SIN_1B_20121007T072635_20121007T072646_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_SIN_1B_20121007T135000_20121007T135048_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: 2

Product	AUX File	Comment
CS_OFFL_SIR_GDR_2A_20121006T225722_20121007T003635_B001	CS_OPER_AUX_ORBDOR_20121005T215525_20121007T002325_0001	Coverage missing for intervals [2012-10-07T00:23:25, 2012-10-07T00:36:35]
CS_OFFL_SIR_GDR_2A_20121007T234545_20121008T012459_B001	CS_OPER_AUX_ORBDOR_20121006T215525_20121008T002325_0001	Coverage missing for intervals [2012-10-08T00:23:25, 2012-10-08T01:24:59]

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__20121007T115628_20121007T120946_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_2__20121007T174434_20121007T174600_B001	Error in MSS/Geoid and Ocean Depth Land Elevation model correction computations
CS_OFFL_SIR_LRM_2__20121007T174644_20121007T180512_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_SAR_2A_20121007T055543_20121007T060016_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: 3

Product	Test Failed	Description
CS_OFFL_SIR_SAR_2A_20121007T023527_20121007T024209_B001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2A_20121007T041325_20121007T041533_B001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2A_20121007T072811_20121007T073049_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	27	25	0	25	0
SIR_LRM_1B	136	142	106	36	0
SIR_LRM_2	136	141	1	140	0
SIR_SAR_1B	90	92	0	92	0
SIR_SAR_2A	91	91	4	87	0
SIR_SIN_1B	97	99	0	99	0
SIR_SIN_2	94	99	0	99	0

6.1 QCC Errors

Number of products with QCC errors: 0

6.2 Missing QCC Reports

Number of products with missing QCC reports: 3

Product name
CS_OFFL_SIR_GDR_2A_20121006T225722_20121007T003635_B001
CS_OFFL_SIR_LRM_1B_20121006T234815_20121007T000233_B001
CS_OFFL_SIR_LRM_2__20121006T234815_20121007T000233_B001