IDEAS Daily Report for OFFLINE data: 16-Feb-2013

1. Overview

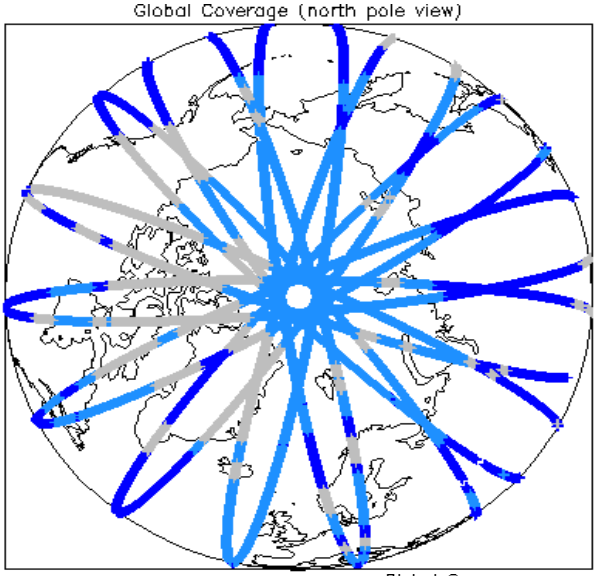
Report Production Date:	15-Mar-2013
Data Used:	OFFLINE L1B and L2 Science Data

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	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	Nominal

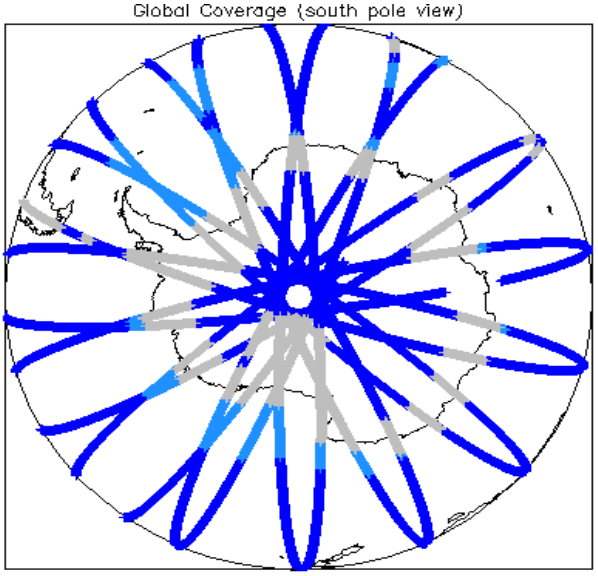
Mission / Instrument News	
15-Feb-2013	None
16-Feb-2013	None
17-Feb-2013	Nothing planned

2. Global Coverage

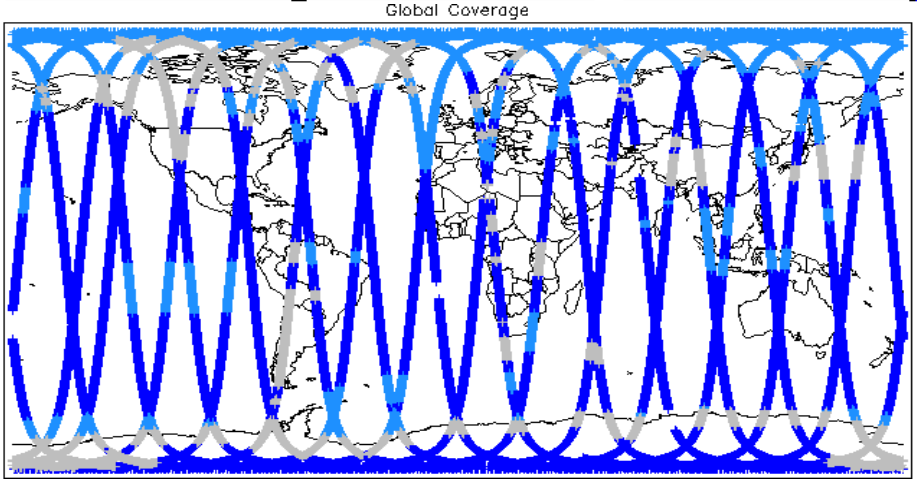
Global Coverage (north pole view)



Global Coverage (south pole view)



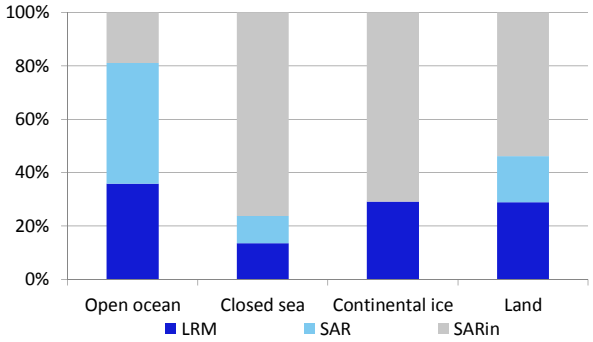
Global Coverage



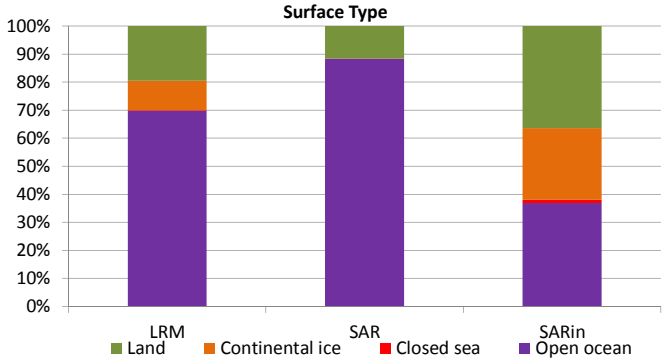
Mode Coverage(%)

LRM	66.12
SAR	19.98
SIN	13.71

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 1 & 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: 1

Product	Test Failed
CS_OFFL_SIR_SAR_1B_20130216T050726_20130216T050726_B001.DBL	Percentage of processing errors detected greater than minimum acceptable threshold.

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
CS_OFFL_SIR_LRM_1B_20130216T055514_20130216T060528_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_1B_20130216T175955_20130216T180024_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_SAR_1B_20130215T235615_20130216T000004_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_SIN_1B_20130216T115923_20130216T120056_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: 0

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_20130215T233405_20130216T011318_B001	CS_OPER_AUX_ORBDOR_20130214T215525_20130216T002325_0001	Coverage missing for intervals [2013-02-16T00:23:25, 2013-02-16T01:13:18]

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__20130216T055514_20130216T060528_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_LRM_2__20130216T175955_20130216T180024_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_SAR_2A_20130215T235615_20130216T000004_B001	Dynamic atmosphere correction error
CS_OFFL_SIR_SIN_2__20130216T115923_20130216T120056_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	17	15	0	15	0
SIR_LRM_1B	152	152	152	0	0
SIR_LRM_2	152	152	0	152	0
SIR_SAR_1B	149	151	0	151	0
SIR_SAR_2A	102	103	9	94	0
SIR_SIN_1B	106	106	0	106	0
SIR_SIN_2	101	102	0	102	0

6.1 QCC Errors

Number of products with QCC errors: 4

Test Description Key:

Abbreviation	Test name	Details
LGF	L0GapsField	L0 Gap significance flag is set to 1 indicating that there are gaps in the L0 product
QF	QualityFlag	The quality flag has been set to 1 in the product header indicating a quality error raised by the data processors

QCC Errors: See the following report.

Product Type	Product Start Time	Error
SIR_SIC40M	CS_OPER_AUX_REP_QC_20130217T212746_SIR_SIC40M20130216T195911	LGF, QF
	CS_OPER_AUX_REP_QC_20130217T212746_SIR_SIC40M20130216T203400	LGF, QF
SIR_SIN_0M	CS_OPER_AUX_REP_QC_20130217T212746_SIR_SIN_0M20130216T195910	LGF, QF
	CS_OPER_AUX_REP_QC_20130217T212749_SIR_SIN_0M20130216T203359	LGF, QF

6.2 Missing QCC Reports

Number of products with missing QCC reports: 6

Product name
CS_OFFL_SIR_GDR_2A_20130215T233405_20130216T011318_B001
CS_OFFL_SIR_SAR_1B_20130215T235615_20130216T000004_B001
CS_OFFL_SIR_SAR_2A_20130215T235615_20130216T000004_B001
CS_OFFL_SIR_SIN_2__20130216T195910_20130216T200033_B001
CS_OFFL_SIR_SIN_2__20130216T203359_20130216T203548_B001
CS_OFFL_SIR_SIN_2__20130216T203800_20130216T203819_B001