

1. Overview

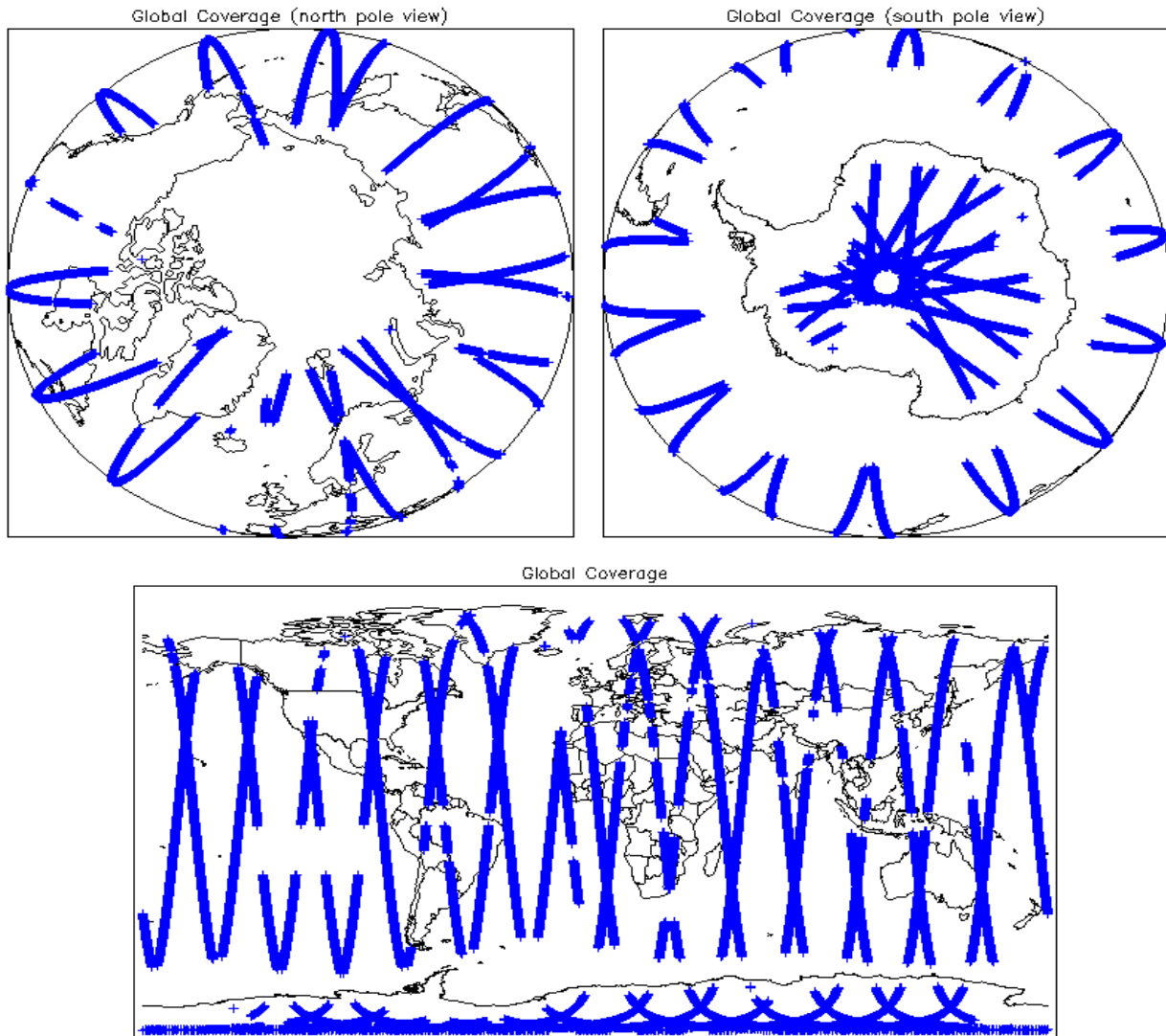
Report Production Date:	11-Aug-2014
Data Used:	L1 and L2 Fast Delivery Marine Mode (FDM), and CAL Data

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 and 6.3
Correction Error Flags	See Sections 5.4 and 6.4
Measurement Confidence Flags	See Sections 5.5, 6.5, 6.6 and 6.8

Mission / Instrument News

09-Aug-2014	None
10-Aug-2014	None
11-Aug-2014	Nothing planned

2. Global Coverage



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 Calibration Data Quality Check

4.1 L1 CAL 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

4.2 L1 CAL 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 processing chain.

Number of products with errors: 0

4.3 L1 CAL 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

4.4 L1 CAL Measurement Confidence Flags

CryoSat Cal1 and Cal2 data includes a measurement confidence flag word (field 11) for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 0

5. Level 1B FDM Data Quality Check

5.1 L1B FDM 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 L1B FDM 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 L1B FDM 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: 71

Product	AUX File	Comment
All SIR_FDM_1B up to 20140810T120228 (66 products)	CS_OPER_AUXIIONGIM_20140810T000000_20140810T235959_0001	Missing Forecast Auxiliary File: CS_OPER_AUXIIONGIM
CS_OFFL_SIR_FDM_1B_20140810T112700_20140810T120228_B001		
CS_OFFL_SIR_FDM_1B_20140810T121215_20140810T121419_B001		
CS_OFFL_SIR_FDM_1B_20140810T122436_20140810T124730_B001	CS_OPER_AUXISEAMPS_20140810T180000_20140810T180000_0001;	Missing Forecast Auxiliary Files: CS_OPER_AUXISEAMPS;
CS_OFFL_SIR_FDM_1B_20140810T125701_20140810T125902_B001	CS_OPER_AUXISURFPS_20140810T180000_20140810T180000_0001;	CS_OPER_AUXISURFPS
CS_OFFL_SIR_FDM_1B_20140810T130646_20140810T132446_B001		
CS_OFFL_SIR_FDM_1B_20140810T132800_20140810T133108_B001		

5.4 L1B Correction Error Flags

Each product is checked to detect auxiliary corrections flagged by the ground-station processing chain as missing or containing errors.

Number of products with errors: 71

Product	Test Failed	Description
All SIR_FDM_1B up to 20140810T120228 (66 products)	GIM ionspheric correction	Due to a missing Forecast Auxiliary File, there was an error with the Ionospheric correction.
CS_OFFL_SIR_FDM_1B_20140810T112700_20140810T120228_B001		
CS_OFFL_SIR_FDM_1B_20140810T121215_20140810T121419_B001		
CS_OFFL_SIR_FDM_1B_20140810T122436_20140810T124730_B001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary File, there was an error with the Dry tropospheric, Wet tropospheric and Invers barometric corrections.
CS_OFFL_SIR_FDM_1B_20140810T125701_20140810T125902_B001		
CS_OFFL_SIR_FDM_1B_20140810T130646_20140810T132446_B001		
CS_OFFL_SIR_FDM_1B_20140810T132800_20140810T133108_B001		

5.5 L1B FDM Measurement Confidence Flags

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: 6

Product	Test Failed	Description
CS_OFFL_SIR_FDM_1B_20140810T004042_20140810T011544_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo
CS_OFFL_SIR_FDM_1B_20140810T020639_20140810T021026_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20140810T045000_20140810T052524_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo
CS_OFFL_SIR_FDM_1B_20140810T183803_20140810T183832_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20140810T215156_20140810T215312_B001	Echo error, Attitude correction missing	The Echo Rx1 Error flag is set, indicating a degraded raw echo. The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20140810T215312_20140810T215736_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo

6. Level 2 FDM Data Quality Check

6.1 L2 FDM 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

6.2 L2 FDM 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 processing chain.

Currently there is a high number of processing error flags set within the Level 2 FDM products (Product_Err and L2_Proc_Flag). These flags are set within L2 Header files (MPH field #19 and SPH field #29) and also within the L2 Product files (MPH field #35 and SPH field #33). They are set by the FDM processor when an error is detected during the L2 processing and also when the percentage of Data Set Records free of processing errors is below the minimum acceptable threshold set within the processor (currently set to 5%).

This issue is under investigation.

Number of products with errors: 0

6.3 L2 FDM 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: 71

Product	AUX File	Comment
All SIR_FDM_2 up to 20140810T120228 (66 products)	CS_OPER_AUXIIONGIM_20140810T000000_20140810T235959_0001	Missing Forecast Auxiliary File: CS_OPER_AUXIIONGIM
CS_OFFL_SIR_FDM_2_20140810T112700_20140810T120228_B001		
CS_OFFL_SIR_FDM_2_20140810T121215_20140810T121419_B001		
CS_OFFL_SIR_FDM_2_20140810T122436_20140810T124730_B001	CS_OPER_AUXISEAMPS_20140810T180000_20140810T180000_0001;	Missing Forecast Auxiliary Files: CS_OPER_AUXISEAMPS;
CS_OFFL_SIR_FDM_2_20140810T125701_20140810T125902_B001	CS_OPER_AUXISURFPS_20140810T180000_20140810T180000_0001;	CS_OPER_AUXISURFPS
CS_OFFL_SIR_FDM_2_20140810T130646_20140810T132446_B001		
CS_OFFL_SIR_FDM_2_20140810T132800_20140810T133108_B001		

6.4 L2 FDM Correction Error Flags

Each product is checked to detect auxiliary corrections flagged by the ground-station processing chain as missing or containing errors.

Number of products with errors: 71

Product	Test Failed	Description
All SIR_FDM_2 up to 20140810T120228 (66 products)	Ionospheric correction	Due to a missing Forecast Auxiliary File, there was an error with the Ionospheric correction.
CS_OFFL_SIR_FDM_2_20140810T112700_20140810T120228_B001		
CS_OFFL_SIR_FDM_2_20140810T121215_20140810T121419_B001		
CS_OFFL_SIR_FDM_2_20140810T122436_20140810T124730_B001	Dry tropospheric correction, Wet tropospheric correction, Inverse barometric correction	Due to a missing Forecast Auxiliary File, there was an error with the Dry tropospheric, Wet tropospheric and Invers barometric corrections.
CS_OFFL_SIR_FDM_2_20140810T125701_20140810T125902_B001		
CS_OFFL_SIR_FDM_2_20140810T130646_20140810T132446_B001		
CS_OFFL_SIR_FDM_2_20140810T132800_20140810T133108_B001		

6.5 L2 FDM Measurement Confidence Flags

CryoSat L2 data includes a quality flag word (field 8) for each 20-Hz measurement record. The bit value of this flag is an assessment of the measurement quality by the processing chain.

Number of products with errors: 6

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2_20140810T004042_20140810T011544_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo
CS_OFFL_SIR_FDM_2_20140810T020639_20140810T021026_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20140810T045000_20140810T052524_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo
CS_OFFL_SIR_FDM_2_20140810T183803_20140810T183832_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20140810T215156_20140810T215312_B001	Echo error, Attitude correction missing	The Echo Rx1 Error flag is set, indicating a degraded raw echo. The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20140810T215312_20140810T215736_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo

6.6 L2 FDM Range Measurement Flags

Each product is checked to detect range measurements flagged by the processing chain as missing or containing errors.

Number of products with errors: 1

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2_20140810T184204_20140810T184207_B001	OCOG Retracked Range Flag	The master fail flag is set by the OCOG call, for one or more records, indicating the values stored in fields #18, #19, #20 and #21 should be ignored for these records.

6.7 L2 FDM SWH and Backscatter Measurement Flags

Each product is checked to detect parameters related to SWH and sigma0 that are flagged by the processing chain as missing or containing errors.

Number of products with errors: 0

6.8 L2 FDM Geophysical Measurement Flags

Each product is checked to detect geophysical measurements flagged by the processing chain as missing or containing errors.

Number of products with errors: 13

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20140810T004042_20140810T011544_B001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records.
CS_OFFL_SIR_FDM_2__20140810T032848_20140810T034452_B001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records.
CS_OFFL_SIR_FDM_2__20140810T085334_20140810T090048_B001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records.
CS_OFFL_SIR_FDM_2__20140810T130646_20140810T132446_B001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records.
CS_OFFL_SIR_FDM_2__20140810T150230_20140810T151152_B001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records.
CS_OFFL_SIR_FDM_2__20140810T153300_20140810T155117_B001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records.
CS_OFFL_SIR_FDM_2__20140810T184204_20140810T184207_B001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag is set indicating the CFI Ocean Retracker was not successfully executed for one or more records.
CS_OFFL_SIR_FDM_2__20140810T112700_20140810T120228_B001	U-Wind, V-Wind component errors	Due to a missing Forecast Auxiliary Files, there was an error with the U-Wind and V-wind components of the ECMWF model wind vector.
CS_OFFL_SIR_FDM_2__20140810T121215_20140810T121419_B001		
CS_OFFL_SIR_FDM_2__20140810T122436_20140810T124730_B001		
CS_OFFL_SIR_FDM_2__20140810T125701_20140810T125902_B001		
CS_OFFL_SIR_FDM_2__20140810T130646_20140810T132446_B001		
CS_OFFL_SIR_FDM_2__20140810T132800_20140810T133108_B001		

7. 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.

Product type	Nb. Products	Nb. QCC Reports	Nb. Valid	Nb. Warnings	Nb. Errors
SIR_FDM_1B	130	0	0	0	0
SIR_FDM_2	130	0	0	0	0

7.1 QCC Errors

Number of QCC reports with errors: 0

7.2 Missing QCC Reports

Number of products with missing QCC reports: All