

1. Overview

Report Production Date:	06-Sep-2013
Data Used:	L1 and L2 Fast Delivery Marine Mode (FDM), and CAL Data

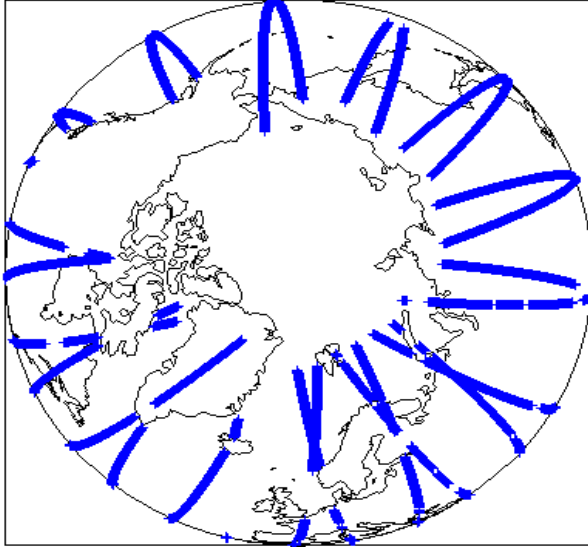
Check	Status
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	Nominal
Auxiliary Data File Usage	See Section 5.3 and 6.3
Correction Error Flags	See Sections 5.4 and 6.4
Measurement Confidence Flags	See Sections 5.5, 6.5, 6.6 and 6.8

Mission / Instrument News

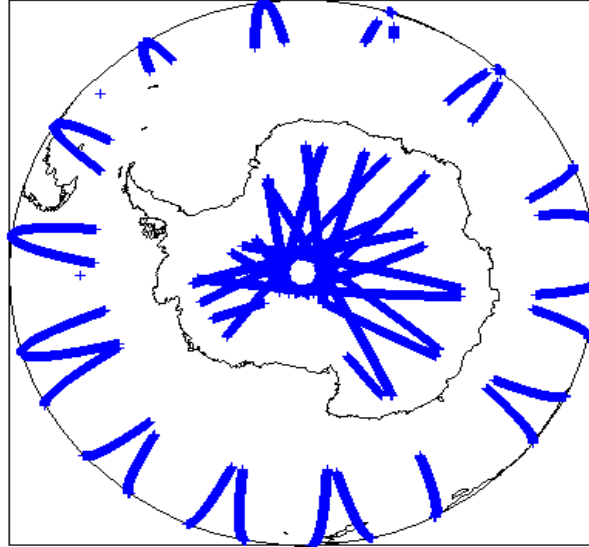
03-Sep-2013	SIRAL unavailability from 3-Sept-2013 21:33:17 to 22:30:30 due to a planned orbit manoeuvre.
04-Sep-2013	None
05-Sep-2013	Nothing planned

2. Global Coverage

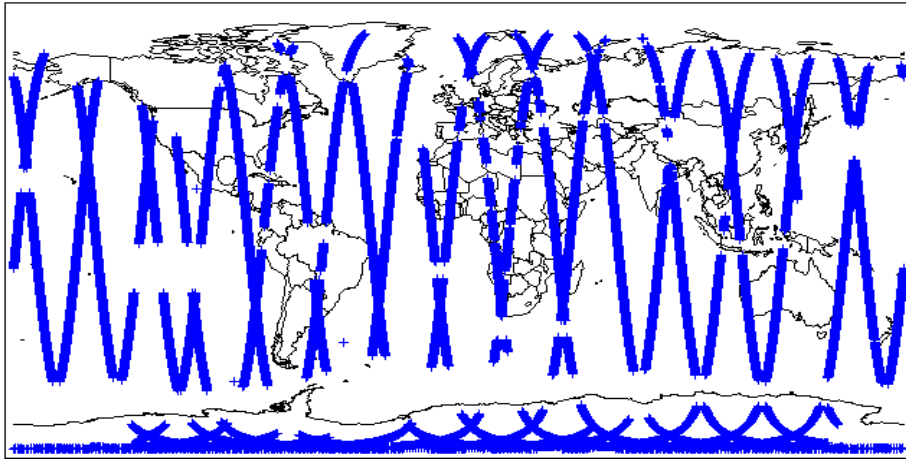
Global Coverage (north pole view)



Global Coverage (south pole view)



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

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: 68

Product	AUX File	Comment
All SIR_FDM_1B_products from 20130904T114604 onwards	CS_OPER_AUXIWETTRP_20130904T180000_20130904T180000_0001; CS_OPER_AUXIWETTRP_20130905T000000_20130905T000000_0001	Missing Forecast Auxiliary Files: CS_OPER_AUXIWETTRP

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: 68

Product	Test Failed	Description
All SIR_FDM_1B_products from 20130904T114604 onwards	Dry tropospheric correction error, Wet tropospheric correction error, Inverse barometric correction error	Due to missing Forecast Auxiliary Files, there was an error with the Dry tropospheric, Wet tropospheric and Inverse barometric corrections

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: 17

Product	Test Failed	Description
CS_OFFL_SIR_FDM_1B_20130904T104021_20130904T104156_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130904T105610_20130904T111323_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo.
CS_OFFL_SIR_FDM_1B_20130904T121436_20130904T121741_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130904T135400_20130904T135457_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130904T153311_20130904T153410_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130904T160533_20130904T162649_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo.
CS_OFFL_SIR_FDM_1B_20130904T171736_20130904T171826_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130904T173038_20130904T173716_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130904T174106_20130904T180515_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130904T180826_20130904T181346_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130904T181351_20130904T181358_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130904T181405_20130904T181701_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130904T182446_20130904T185453_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130904T190906_20130904T192805_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130904T193009_20130904T194451_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130904T194742_20130904T195243_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130904T195250_20130904T195257_B001	Attitude correction missing	The attitude has not been corrected

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: 67

Product	AUX File	Comment
All SIR_FDM_2_products from 20130904T114604 onwards	CS_OPER_AUXIWETTRP_20130904T180000_20130904T180000_0001; CS_OPER_AUXIWETTRP_20130905T000000_20130905T000000_0001	Missing Forecast Auxiliary Files: CS_OPER_AUXIWETTRP

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: 67

Product	Test Failed	Description
All SIR_FDM_2_products from 20130904T114604 onwards	Dry tropospheric correction error, Wet tropospheric correction error, Inverse barometric correction error	Due to missing Forecast Auxiliary Files, there was an error with the Dry tropospheric, Wet tropospheric and Inverse barometric corrections

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: 17

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2_20130904T104021_20130904T104156_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20130904T105610_20130904T111323_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo.
CS_OFFL_SIR_FDM_2_20130904T121436_20130904T121741_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20130904T135400_20130904T135457_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20130904T153311_20130904T153410_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20130904T160533_20130904T162649_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo.
CS_OFFL_SIR_FDM_2_20130904T171736_20130904T171826_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20130904T173038_20130904T173716_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20130904T174106_20130904T180515_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20130904T180826_20130904T181346_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20130904T181351_20130904T181358_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20130904T181405_20130904T181701_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20130904T182446_20130904T185453_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20130904T190906_20130904T192805_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20130904T193009_20130904T194451_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20130904T194742_20130904T195243_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2_20130904T195250_20130904T195257_B001	Attitude correction missing	The attitude has not been corrected

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: 4

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2_20130904T005633_20130904T005654_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.
CS_OFFL_SIR_FDM_2_20130904T032849_20130904T034944_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.
CS_OFFL_SIR_FDM_2_20130904T041331_20130904T041802_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.
CS_OFFL_SIR_FDM_2_20130904T055651_20130904T060352_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: 72

Product	Test Failed	Description
All SIR_FDM_2_products from 20130904T114604 onwards (67 products)	U-Wind component error, V-Wind component error	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__20130904T005633_20130904T005654_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__20130904T032849_20130904T034944_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__20130904T041331_20130904T041802_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__20130904T055651_20130904T060352_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__20130904T075904_20130904T080951_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__20130904T114604_20130904T121048_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__20130904T165555_20130904T170828_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__20130904T190906_20130904T192805_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__20130904T213952_20130904T221516_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.

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	138	136	124	12	0
SIR_FDM_2	136	134	0	134	0

7.1 QCC Errors

Number of QCC reports with errors: 0

7.2 Missing QCC Reports

Number of products with missing QCC reports: 3

Product name
CS_OFFL_SIR_FDM_1B_20130903T235647_20130904T000209_B001
CS_OFFL_SIR_FDM_1B_20130904T223514_20130904T223604_B001
CS_OFFL_SIR_FDM_2__20130903T235647_20130904T000209_B001