

1. Overview

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

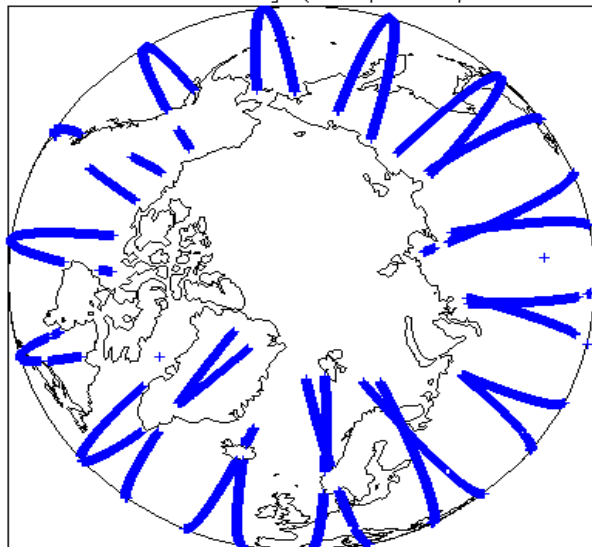
Check	Status
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	Nominal
Auxiliary Data File Usage	See Section 5.3 and 6.3
Correction Error Flags	See Sections 5.4 and 6.4
Measurement Confidence Flags	See Sections 5.5, 6.5, 6.6, 6.7 and 6.8

Mission / Instrument News

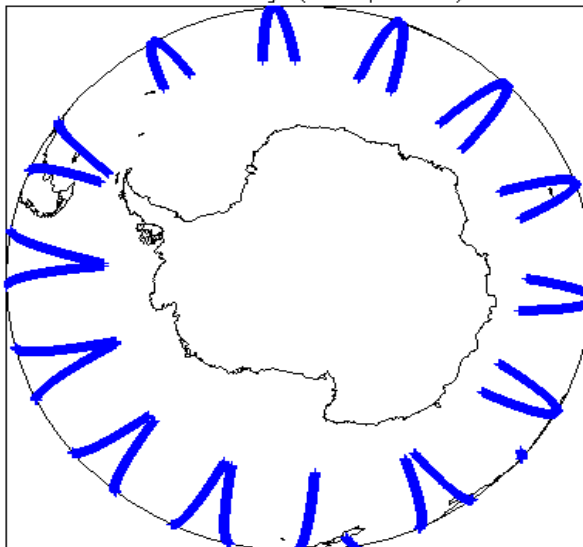
04-Jun-2013	None
05-Jun-2013	None
06-Jun-2013	SIRAL will be unavailable on the 6 June 2013 from 05.10.48 UTC (to StandBy) to 06.57.54 UTC (to_LRM).

2. Global Coverage

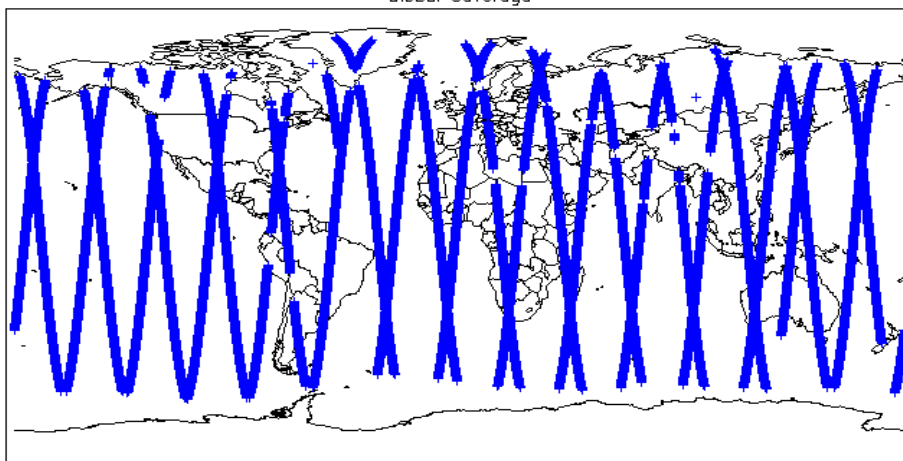
Global Coverage (north pole view)



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: 41

Product	AUX File	Comment
All SIR_FDM_1B_products from 20130605T115738 to 20130605T174405	CS_OPER_AUXISURFPS_20130605T180000_20130605T180000_0_0001	Missing Forecast Auxiliary File: CS_OPER_AUXISURFPS
All SIR_FDM_1B products from 20130605T180752 onwards	CS_OPER_AUXISURFPS_20130606T000000_20130606T000000_0_0001	Missing Forecast Auxiliary File: CS_OPER_AUXISURFPS

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: 41

Product	Test Failed	Description
All SIR_FDM_1B products from 20130605T115738	Dry tropospheric correction error, Wet tropospheric correction error, Inverse barometric correction error	Due to a missing Forecast Auxiliary File, 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: 8

Product	Test Failed	Description
CS_OFFL_SIR_FDM_1B_20130605T013123_20130605T014300_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo.
CS_OFFL_SIR_FDM_1B_20130605T151635_20130605T152528_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo.
CS_OFFL_SIR_FDM_1B_20130605T163137_20130605T163810_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130605T180756_20130605T181142_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130605T181145_20130605T181516_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130605T195330_20130605T195415_B001	Echo error, Attitude correction missing	The Echo Rx1 Error flag is set, indicating a degraded raw echo.
CS_OFFL_SIR_FDM_1B_20130605T210339_20130605T213530_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130605T231721_20130605T231939_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: 41

Product	AUX File	Comment
All SIR_FDM_2_products from 20130605T115738 to 20130605T174405	CS_OPER_AUXISURFPS_20130605T180000_20130605T180000_0_0001	Missing Forecast Auxiliary File: CS_OPER_AUXISURFPS
All SIR_FDM_2_products from 20130605T180752 onwards	CS_OPER_AUXISURFPS_20130606T000000_20130606T000000_0_0001	Missing Forecast Auxiliary File: CS_OPER_AUXISURFPS

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: 41

Product	Test Failed	Description
All SIR_FDM_2_products from 20130605T115738	Dry tropospheric correction error, Wet tropospheric correction error, Inverse barometric correction error	Due to a missing Forecast Auxiliary File, 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: 8

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20130605T013123_20130605T014300_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo.
CS_OFFL_SIR_FDM_2__20130605T151635_20130605T152528_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo.
CS_OFFL_SIR_FDM_2__20130605T163137_20130605T163810_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130605T180756_20130605T181142_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130605T181145_20130605T181516_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130605T195330_20130605T195415_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130605T210339_20130605T213530_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130605T231721_20130605T231939_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: 1

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20130605T074839_20130605T082328_B001	OCO2 Retracked Range Flag	The master fail flag is set by the OCO2 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: 1

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20130605T021730_20130605T023454_B001	OCO2 Backscatter Status Flag	The master fail flag is set by the CFI call, for one or more records, indicating the values stored in fields #47, #48, #49 and #50 should be ignored for these records.

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: 44

Product	Test Failed	Description
All SIR_FDM_2_products from 20130605T115738	U-Wind component error, V-Wind component error	Due to a missing Forecast Auxiliary File, there was an error with the U-Wind and V-wind components of the ECMWF model wind vector.
CS_OFFL_SIR_FDM_2_20130605T052743_20130605T055348_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_20130605T065547_20130605T070852_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_20130605T074839_20130605T082328_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_20130605T115738_20130605T123031_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_20130605T174405_20130605T180752_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_20130605T195416_20130605T195626_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_20130605T232907_20130606T000526_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	81	80	65	15	0
SIR_FDM_2	80	78	0	78	0

7.1 QCC Errors

Number of QCC reports with errors: 0

7.2 Missing QCC Reports

Number of products with missing QCC reports: 4

Product name
CS_OFFL_SIR_FDM_1B_20130604T233358_20130605T000732_B001
CS_OFFL_SIR_FDM_2_20130604T233358_20130605T000732_B001
CS_OFFL_SIR_FDM_2_20130605T231939_20130605T232051_B001
CS_OFFL_SIR_FDM_2_20130605T232907_20130606T000526_B001