

## 1. Overview

<b>Report Production Date:</b>	17-May-2013
<b>Data Used:</b>	L1 and L2 Fast Delivery Marine Mode (FDM), and CAL Data

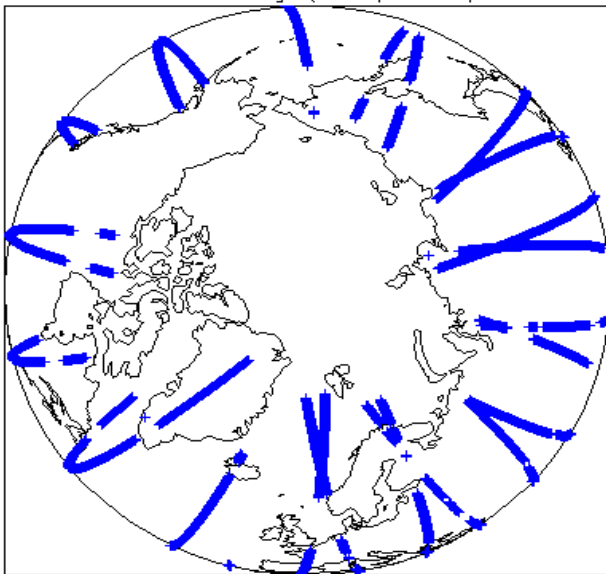
Check	Status
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	Nominal
Auxiliary Data File Usage	Nominal
Correction Error Flags	Nominal
Measurement Confidence Flags	See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

### Mission / Instrument News

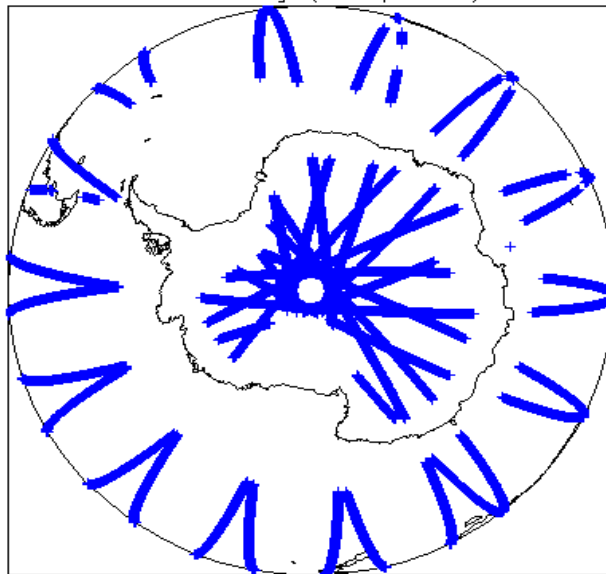
14-May-2013	None
15-May-2013	None
16-May-2013	SIRAL unavailability from 16-May-2013 07:15:38 to 08:12:41 due to a planned orbit manoeuvre.

## 2. Global Coverage

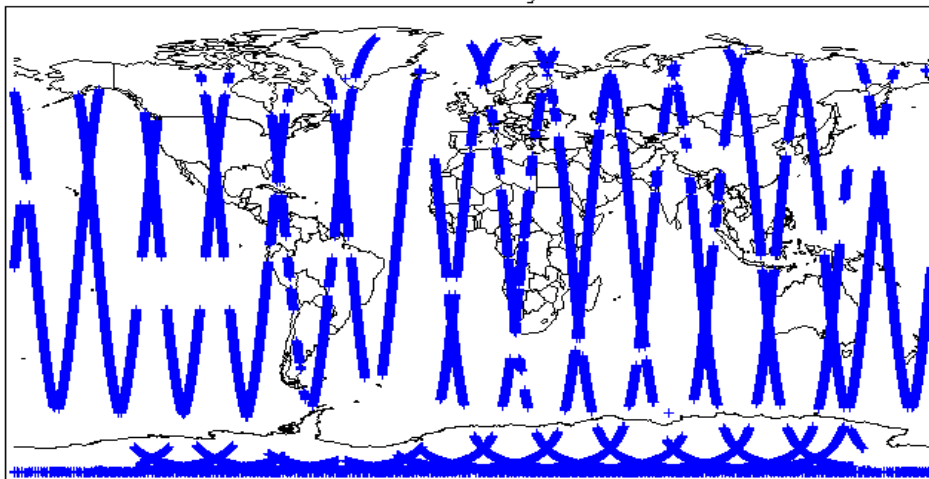
Global Coverage (north pole view)



Global Coverage (south pole view)



Global Coverage



## 3. Instrument Configuration

The SIRAL instrument configuration for the day of acquisition is provided below.

<b>SIRAL instrument(s) in use:</b>	SIRAL - A
<b>Star Tracker(s) in use:</b>	Star Tracker 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: 0

## 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: 0

## 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_20130515T063408_20130515T063913_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo.
CS_OFFL_SIR_FDM_1B_20130515T081055_20130515T081152_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130515T081207_20130515T081236_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130515T081524_20130515T081909_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130515T081926_20130515T082001_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130515T082201_20130515T082401_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130515T082545_20130515T083040_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130515T083101_20130515T083545_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130515T083602_20130515T084040_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130515T084331_20130515T084835_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130515T085146_20130515T085704_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130515T090342_20130515T092514_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130515T092759_20130515T093710_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130515T093925_20130515T093935_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130515T174926_20130515T175308_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130515T192926_20130515T193026_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: 0

## 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: 0

## 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__20130515T063408_20130515T063913_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo.
CS_OFFL_SIR_FDM_2__20130515T081055_20130515T081152_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130515T081207_20130515T081236_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130515T081524_20130515T081909_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130515T081926_20130515T082001_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130515T082201_20130515T082401_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130515T082545_20130515T083040_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130515T083101_20130515T083545_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130515T083602_20130515T084040_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130515T084331_20130515T084835_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130515T085146_20130515T085704_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130515T090342_20130515T092514_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130515T092759_20130515T093710_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130515T093925_20130515T093935_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130515T174926_20130515T175308_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130515T192926_20130515T193026_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: 7

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20130515T000719_20130515T001032_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__20130515T084331_20130515T084835_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__20130515T090342_20130515T092514_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__20130515T113219_20130515T113917_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__20130515T113935_20130515T120340_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__20130515T133432_20130515T134615_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__20130515T151006_20130515T152641_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: 11

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20130515T000719_20130515T001032_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__20130515T001709_20130515T003242_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__20130515T005046_20130515T010333_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__20130515T084331_20130515T084835_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__20130515T090342_20130515T092514_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__20130515T100053_20130515T101405_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__20130515T113219_20130515T113917_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__20130515T113935_20130515T120340_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__20130515T133432_20130515T134615_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__20130515T151006_20130515T152641_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__20130515T204617_20130515T205407_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	143	142	109	33	0
SIR_FDM_2	142	140	0	140	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_20130514T235943_20130515T000331_B001
CS_OFFL_SIR_FDM_2__20130514T235943_20130515T000331_B001
CS_OFFL_SIR_FDM_2__20130515T161039_20130515T161055_B001