IDEAS Daily Report for NRT data: 16-Sep-2013

1. Overview

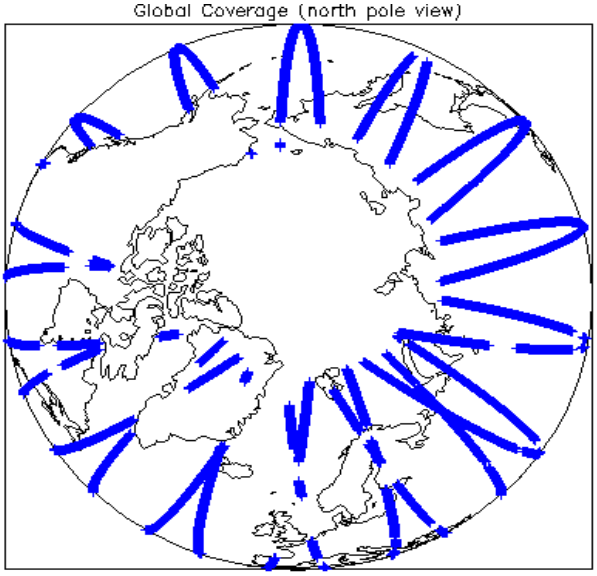
Report Production Date:	19-Sep-2013
Data Used:	L1 and L2 Fast Delivery Marine Mode (FDM), and CAL Data

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

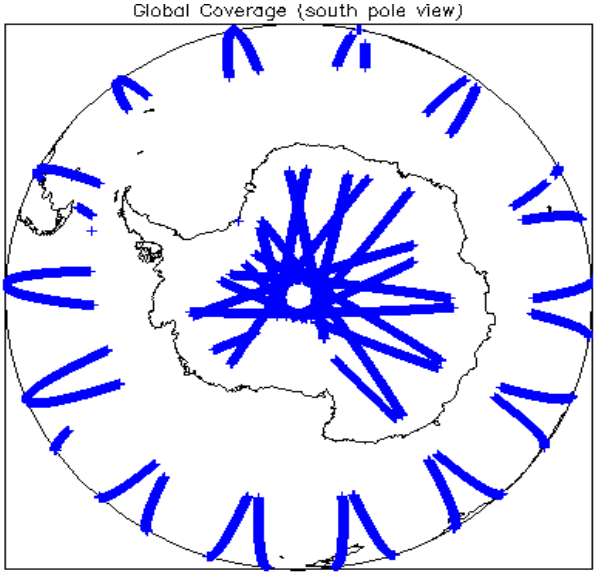
Mission / Instrument News	
15-Sep-2013	None
16-Sep-2013	None
17-Sep-2013	Nothing planned

2. Global Coverage

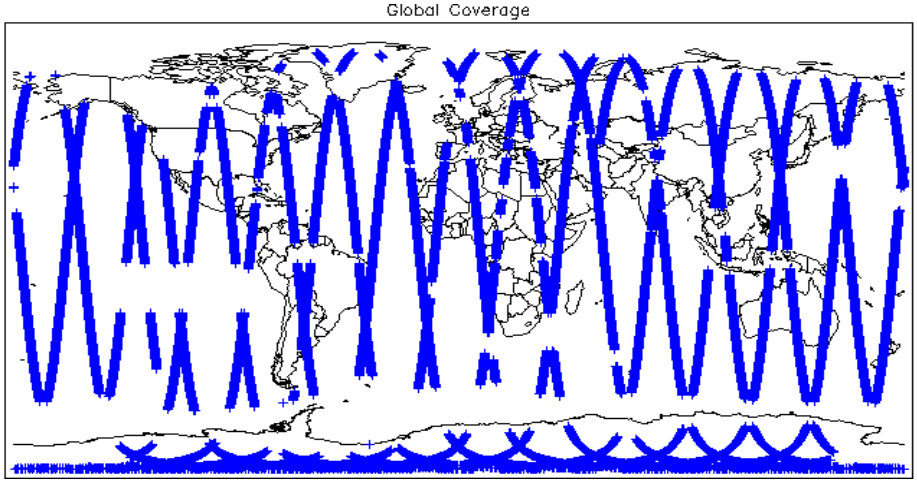
Global Coverage (north pole view)



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 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: 8

Product	AUX File	Comment
CS_OFFL_SIR_FDM_1B_20130916T001106_20130916T002724_B001	CS_OPER_AUXIIONGIM_20130916T000000_20130916T235959_0001	Forecast Auxiliary File not used in FDM processing.
CS_OFFL_SIR_FDM_1B_20130916T004038_20130916T004208_B001	CS_OPER_AUXIIONGIM_20130916T000000_20130916T235959_0001	Forecast Auxiliary File not used in FDM processing.
CS_OFFL_SIR_FDM_1B_20130916T005110_20130916T010028_B001	CS_OPER_AUXIIONGIM_20130916T000000_20130916T235959_0001	Forecast Auxiliary File not used in FDM processing.
CS_OFFL_SIR_FDM_1B_20130916T012208_20130916T013003_B001	CS_OPER_AUXIIONGIM_20130916T000000_20130916T235959_0001	Forecast Auxiliary File not used in FDM processing.
CS_OFFL_SIR_FDM_1B_20130916T021921_20130916T022136_B001	CS_OPER_AUXIIONGIM_20130916T000000_20130916T235959_0001	Forecast Auxiliary File not used in FDM processing.
CS_OFFL_SIR_FDM_1B_20130916T022214_20130916T022320_B001	CS_OPER_AUXIIONGIM_20130916T000000_20130916T235959_0001	Forecast Auxiliary File not used in FDM processing.
CS_OFFL_SIR_FDM_1B_20130916T022444_20130916T022832_B001	CS_OPER_AUXIIONGIM_20130916T000000_20130916T235959_0001	Forecast Auxiliary File not used in FDM processing.
CS_OFFL_SIR_FDM_1B_20130916T022859_20130916T023003_B001	CS_OPER_AUXIIONGIM_20130916T000000_20130916T235959_0001	Forecast Auxiliary File not used in FDM processing.

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: 8

Product	Test Failed	Description
CS_OFFL_SIR_FDM_1B_20130916T001106_20130916T002724_B001	GIM ionospheric correction	Due to a missing Forecast Auxiliary File (CS_OPER_AUXIIONGIM_20130916T000000_20130916T235959_0001), there was an error with the GIM ionospheric correction.
CS_OFFL_SIR_FDM_1B_20130916T004038_20130916T004208_B001	GIM ionospheric correction	
CS_OFFL_SIR_FDM_1B_20130916T005110_20130916T010028_B001	GIM ionospheric correction	
CS_OFFL_SIR_FDM_1B_20130916T012208_20130916T013003_B001	GIM ionospheric correction	
CS_OFFL_SIR_FDM_1B_20130916T021921_20130916T022136_B001	GIM ionospheric correction	
CS_OFFL_SIR_FDM_1B_20130916T022214_20130916T022320_B001	GIM ionospheric correction	
CS_OFFL_SIR_FDM_1B_20130916T022444_20130916T022832_B001	GIM ionospheric correction	
CS_OFFL_SIR_FDM_1B_20130916T022859_20130916T023003_B001	GIM ionospheric correction	

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_20130916T102543_20130916T102625_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130916T104730_20130916T105845_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo.
CS_OFFL_SIR_FDM_1B_20130916T120000_20130916T120226_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130916T133850_20130916T134006_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130916T165419_20130916T170147_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130916T170147_20130916T170326_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130916T170606_20130916T170631_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_1B_20130916T171538_20130916T172234_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: 9

Product	AUX File	Comment
CS_OFFL_SIR_FDM_2__20130916T001106_20130916T002724_B001	CS_OPER_AUXIIONGIM_20130916T000000_20130916T235959_0001	Forecast Auxiliary File not used in FDM processing.
CS_OFFL_SIR_FDM_2__20130916T004038_20130916T004208_B001	CS_OPER_AUXIIONGIM_20130916T000000_20130916T235959_0001	Forecast Auxiliary File not used in FDM processing.
CS_OFFL_SIR_FDM_2__20130916T005110_20130916T010028_B001	CS_OPER_AUXIIONGIM_20130916T000000_20130916T235959_0001	Forecast Auxiliary File not used in FDM processing.
CS_OFFL_SIR_FDM_2__20130916T012208_20130916T013003_B001	CS_OPER_AUXIIONGIM_20130916T000000_20130916T235959_0001	Forecast Auxiliary File not used in FDM processing.
CS_OFFL_SIR_FDM_2__20130916T021102_20130916T021107_B001	CS_OPER_AUXIIONGIM_20130916T000000_20130916T235959_0001	Forecast Auxiliary File not used in FDM processing.
CS_OFFL_SIR_FDM_2__20130916T021921_20130916T022136_B001	CS_OPER_AUXIIONGIM_20130916T000000_20130916T235959_0001	Forecast Auxiliary File not used in FDM processing.
CS_OFFL_SIR_FDM_2__20130916T022214_20130916T022320_B001	CS_OPER_AUXIIONGIM_20130916T000000_20130916T235959_0001	Forecast Auxiliary File not used in FDM processing.
CS_OFFL_SIR_FDM_2__20130916T022444_20130916T022832_B001	CS_OPER_AUXIIONGIM_20130916T000000_20130916T235959_0001	Forecast Auxiliary File not used in FDM processing.
CS_OFFL_SIR_FDM_2__20130916T022859_20130916T023003_B001	CS_OPER_AUXIIONGIM_20130916T000000_20130916T235959_0001	Forecast Auxiliary File not used in FDM processing.

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: 9

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20130916T001106_20130916T002724_B001	Ionospheric correction	Due to a missing Forecast Auxiliary File (CS_OPER_AUXIIONGIM_20130916T000000_20130916T235959_0001), there was an error with the Ionospheric correction.
CS_OFFL_SIR_FDM_2__20130916T004038_20130916T004208_B001	Ionospheric correction	
CS_OFFL_SIR_FDM_2__20130916T005110_20130916T010028_B001	Ionospheric correction	
CS_OFFL_SIR_FDM_2__20130916T012208_20130916T013003_B001	Ionospheric correction	
CS_OFFL_SIR_FDM_2__20130916T021102_20130916T021107_B001	Ionospheric correction	
CS_OFFL_SIR_FDM_2__20130916T021921_20130916T022136_B001	Ionospheric correction	
CS_OFFL_SIR_FDM_2__20130916T022214_20130916T022320_B001	Ionospheric correction	
CS_OFFL_SIR_FDM_2__20130916T022444_20130916T022832_B001	Ionospheric correction	
CS_OFFL_SIR_FDM_2__20130916T022859_20130916T023003_B001	Ionospheric correction	

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__20130916T102543_20130916T102625_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130916T104730_20130916T105845_B001	Echo error	The Echo Rx1 Error flag is set, indicating a degraded raw echo.
CS_OFFL_SIR_FDM_2__20130916T120000_20130916T120226_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130916T133850_20130916T134006_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130916T165419_20130916T170147_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130916T170147_20130916T170326_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130916T170606_20130916T170631_B001	Attitude correction missing	The attitude has not been corrected
CS_OFFL_SIR_FDM_2__20130916T171538_20130916T172234_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: 2

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20130916T102625_20130916T102911_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__20130916T191536_20130916T193006_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: 6

Product	Test Failed	Description
CS_OFFL_SIR_FDM_2__20130916T064928_20130916T070858_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__20130916T102625_20130916T102911_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__20130916T133307_20130916T133716_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__20130916T155041_20130916T160650_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__20130916T185433_20130916T191333_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__20130916T191536_20130916T193006_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	139	138	135	3	0
SIR_FDM_2	141	138	0	138	0

7.1 QCC Errors

Number of QCC reports with errors: 0

7.2 Missing QCC Reports

Number of products with missing QCC reports: 6

Product name
CS_OFFL_SIR_FDM_1B_20130915T235450_20130916T000537_B001
CS_OFFL_SIR_FDM_1B_20130916T134006_20130916T134246_B001
CS_OFFL_SIR_FDM_1B_20130916T134409_20130916T134508_B001
CS_OFFL_SIR_FDM_2__20130915T235450_20130916T000537_B001
CS_OFFL_SIR_FDM_2__20130916T085728_20130916T085811_B001
CS_OFFL_SIR_FDM_2__20130916T160658_20130916T161156_B001