

### 1. Overview

Report Production Date:	12-Jan-2016
Processor Used:	CryoSat Ice Processor
Data Used:	L1B and L2 OFFLINE Data

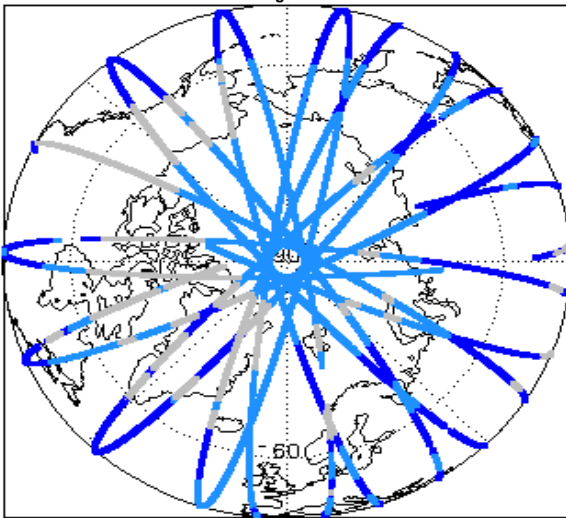
Check	Status
Server check: science-pds.cryosat.esa.int	Nominal
Server check: calval-pds.cryosat.esa.int	Nominal
Product Software Check	Nominal
Product Format Check	Nominal
Product Header Analysis	See Section 4.2 and 5.2
Star Tracker Usage Check	Nominal
L1B Calibration Usage Check	See Section 4.4
L1B & L2 Auxiliary Data File Usage Check	Nominal
L1B & L2 Auxiliary Correction Error Check	Nominal
L1B & L2 Measurement Confidence Data Check	See Section 4.7 and 5.5

#### Mission / Instrument News

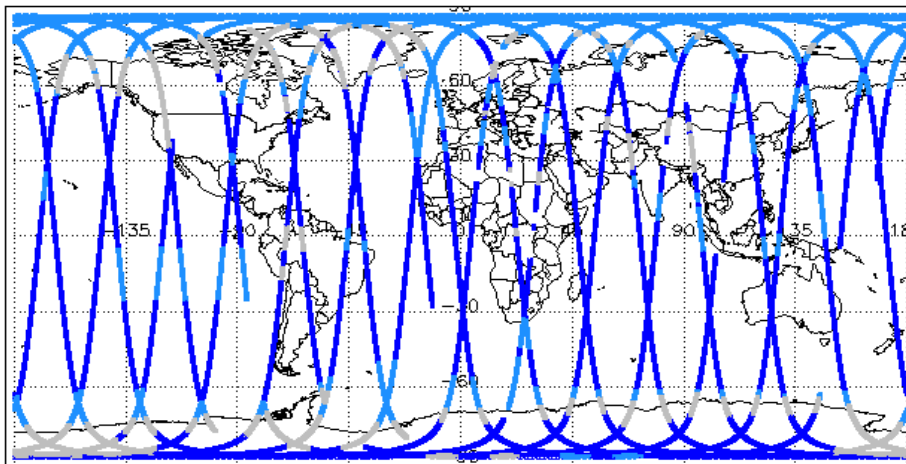
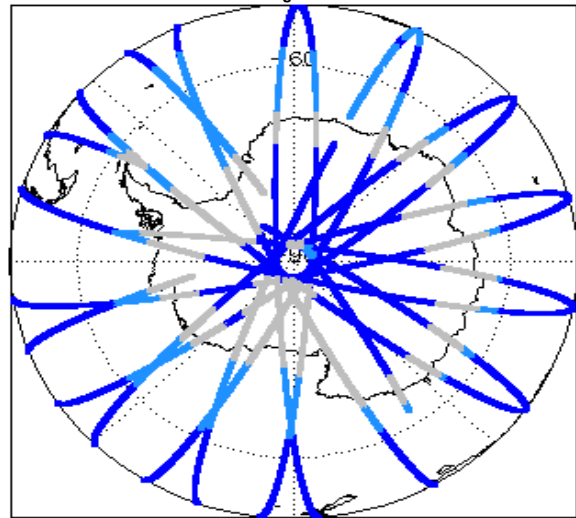
12-Dec-2015	None
13-Dec-2015	None
14-Dec-2015	Nothing planned

### 2. Global Coverage

Global Coverage - North Pole



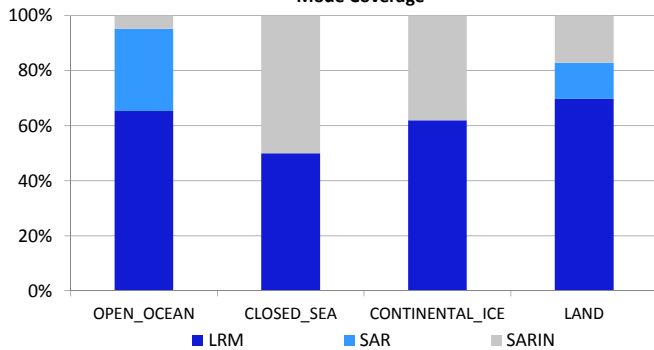
Global Coverage - South Pole



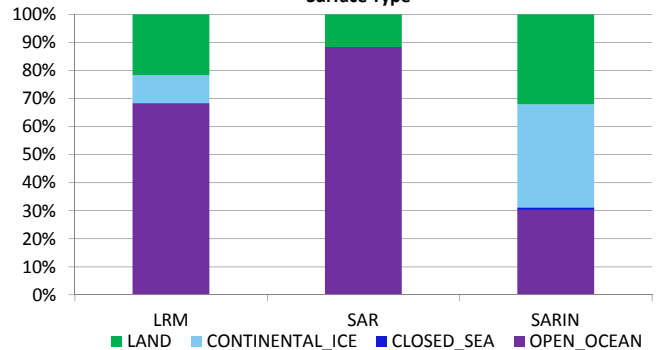
Mode Coverage (%)

	LRM	65.8
	SAR	23.3
	SARin	10.9

Mode Coverage



Surface Type



### 3. Instrument Configuration

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

SIRAL instrument(s) in use:	SIRAL - A
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## 4. Level 1B Data Quality Check

### 4.1 L1B 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 product file (.DBL).

Number of products with errors: 0

### 4.2 L1B 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: 5

Product	Test Failed
CS_OFFL_SIR_SAR_1B_20151213T133518_20151213T133518_C001	Percentage of processing errors detected greater than minimum acceptable threshold.
CS_OFFL_SIR_SAR_1B_20151213T021942_20151213T021942_C001	Percentage of processing errors detected greater than minimum acceptable threshold.
CS_OFFL_SIR_SAR_1B_20151213T133958_20151213T133959_C001	Percentage of processing errors detected greater than minimum acceptable threshold.
CS_OFFL_SIR_SAR_1B_20151213T022117_20151213T022118_C001	Percentage of processing errors detected greater than minimum acceptable threshold.
CS_OFFL_SIR_SAR_1B_20151213T133511_20151213T133514_C001	Percentage of processing errors detected greater than minimum acceptable threshold.

### 4.3 Star Tracker Usage Check

Each product is checked in order to ensure a valid star tracker file has been used in processing.

Number of products with errors: 0

### 4.4 L1B Calibration Usage Check

Each product is checked in order to ensure that the necessary calibration files have been used in processing.

Number of products with errors: 0

### 4.5 L1B Auxiliary Data File Usage Check

Each product is checked for missing Data Set Descriptors with respect to a pre-determined baseline and also to check the validity of Auxiliary Data Files is correct.

Number of products with errors: 0

### 4.6 L1B Auxiliary Correction Error Check

CryoSat L1B data includes a correction error flag (field 54) for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 0

### 4.7 L1B Measurement Confidence Data Check

CryoSat L1B data includes a measurement confidence flag (field 18) for each measurement record. The bit value of this flag indicates any problems when set.

**Currently, there are several common error flags raised in the Level 1B products which are expected due to operational mode or surface type. All common flags are summarised in the list below, followed by a table of any additional issues arising from this test.**

**Block Degraded Flag:** This flag is currently set for a number of individual records generally at the start or end of products (all modes), but this is to be expected.

**Phase Perturbation Flag:** This flag is currently set for all L1B SARIn products, indicating that the ADC correction application is deactivated, but this is in line with the current configuration.

Number of products with errors: 0

## 5. Level 2 Data Quality Check

### 5.1 L2 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 product file (.DBL).

Number of products with errors: 0

### 5.2 L2 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: 2

Product	Test Failed
CS_OFFL_SIR_SAR_2_20151213T133958_20151213T133959_C001	Percentage of processing errors detected greater than minimum acceptable threshold.
CS_OFFL_SIR_SAR_2_20151213T133512_20151213T133514_C001	Percentage of processing errors detected greater than minimum acceptable threshold.

### 5.3 L2 Auxiliary Data File Usage Check

Each product is checked for missing Data Set Descriptors with respect to a pre-determined baseline and also to check the validity of Auxiliary Data Files is correct.

Number of products with errors: 0

### 5.4 L2 Auxiliary Correction Error Check

CryoSat L2 data includes a correction error flag (field 30) for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 0

## 5.5 L2 Measurement Quality Flag Check

CryoSat L2 data includes a quality flag (field 50) for each 20-Hz measurement record. The bit value of this flag indicates any problems when set.

**Currently, there are several common error flags raised in the Level 2 products which are expected due to operational mode or surface type. All common flags are summarised in the list below, followed by a table of any additional issues arising from this test.**

**Freeboard error:** This flag is correctly set in all L2 SAR products that are not discriminated as sea-ice, and for which freeboard cannot be calculated.

**Height and Backscatter errors:** These flags are currently set for products over land, but this is to be expected. Retracker 1 Height and Backscatter error flags are also set for products over sea-ice, but this is to be expected.

**Peakiness error:** This flag is currently set for products over sea-ice, but this is to be expected.

**SARin X-Track Angle Error:** This flag is set when the difference between the computed surface elevation and the DEM is >50 m. The DEM is only available over Greenland and Antarctica and as a result this flag is set for L2 SARin products in all other locations as expected.

**SSHA interpolation error:** This flag is currently set for a number of SAR products occurring at surface type boundaries, but this is to be expected.

**Number of products with errors:** 107

Product	Test Failed	Description
CS_OFFL_SIR_LRM_2__20151212T235111_20151213T001600_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_2__20151213T002024_20151213T002429_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_2__20151213T004113_20151213T005738_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_2__20151213T013218_20151213T014447_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_2__20151213T014531_20151213T020239_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_2__20151213T022157_20151213T023539_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_2__20151213T023743_20151213T025251_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_2__20151213T030911_20151213T031730_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_2__20151213T032615_20151213T033808_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_2__20151213T041705_20151213T043203_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_2__20151213T050316_20151213T051243_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_2__20151213T055219_20151213T061116_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_2__20151213T062531_20151213T063659_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_2__20151213T064229_20151213T065344_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_2__20151213T072544_20151213T075014_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_2__20151213T075759_20151213T080128_C001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_2__20151213T080609_20151213T081613_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_2__20151213T082143_20151213T083935_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_2__20151213T085156_20151213T085359_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_2__20151213T090112_20151213T090542_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_2__20151213T093253_20151213T093823_C001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_2__20151213T094502_20151213T101825_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_2__20151213T104142_20151213T104423_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_2__20151213T104606_20151213T110719_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_2__20151213T111213_20151213T111719_C001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_2__20151213T112343_20151213T115717_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_2__20151213T122212_20151213T124453_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_2__20151213T125431_20151213T125623_C001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_2__20151213T130338_20151213T131815_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_2__20151213T131818_20151213T131906_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_2__20151213T131909_20151213T132045_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_2__20151213T132527_20151213T133417_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_2__20151213T135231_20151213T140943_C001	Height Error (Retracker 2), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 for one or more records
CS_OFFL_SIR_LRM_2__20151213T141139_20151213T142602_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records
CS_OFFL_SIR_LRM_2__20151213T144230_20151213T145751_C001	Height Error (Retracker 2), Height Error (Retracker 3), Backscatter Error (Retracker 2)	There is a height and backscatter error for Retracker 2 and a height error for Retracker 3 for one or more records



CS_OFFL_SIR_SIN_2__20151213T125624_20151213T130208_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2__20151213T134710_20151213T134830_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2__20151213T135103_20151213T135209_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2__20151213T143013_20151213T143328_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2__20151213T143534_20151213T143629_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2__20151213T144037_20151213T144213_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2__20151213T152620_20151213T152727_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2__20151213T152820_20151213T152917_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2__20151213T160924_20151213T161125_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2__20151213T161939_20151213T162126_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2__20151213T170534_20151213T171121_C001	SARIn X-track Angle Error, Surface Model Unavailable	An ambiguous angle was detected for SARIn mode and no DEM or Slope Model was used for one or more records
CS_OFFL_SIR_SIN_2__20151213T174856_20151213T175013_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2__20151213T175217_20151213T175255_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2__20151213T175813_20151213T180048_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2__20151213T183854_20151213T183923_C001	SARIn X-track Angle Error, Surface Model Unavailable	An ambiguous angle was detected for SARIn mode and no DEM or Slope Model was used for one or more records
CS_OFFL_SIR_SIN_2__20151213T192815_20151213T192935_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2__20151213T193030_20151213T193221_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2__20151213T193826_20151213T193950_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2__20151213T210804_20151213T211130_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2__20151213T211658_20151213T211815_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2__20151213T224708_20151213T225028_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2__20151213T225547_20151213T225710_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2__20151213T233651_20151213T233921_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records