

1. Overview

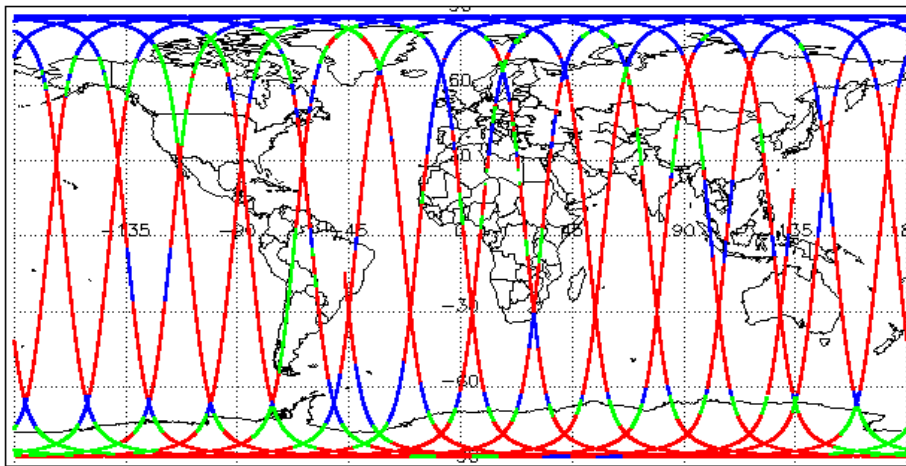
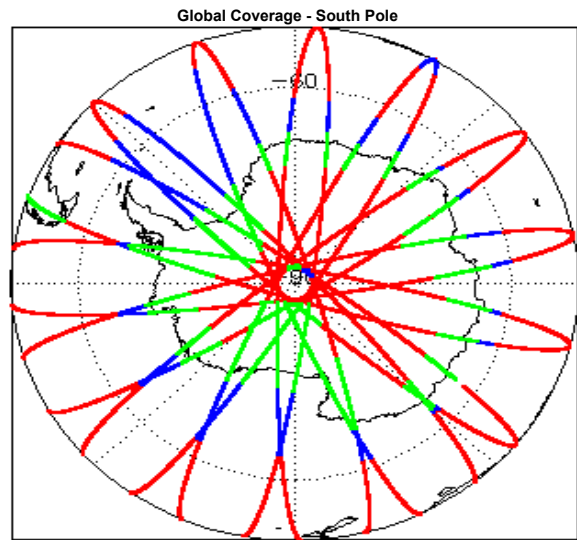
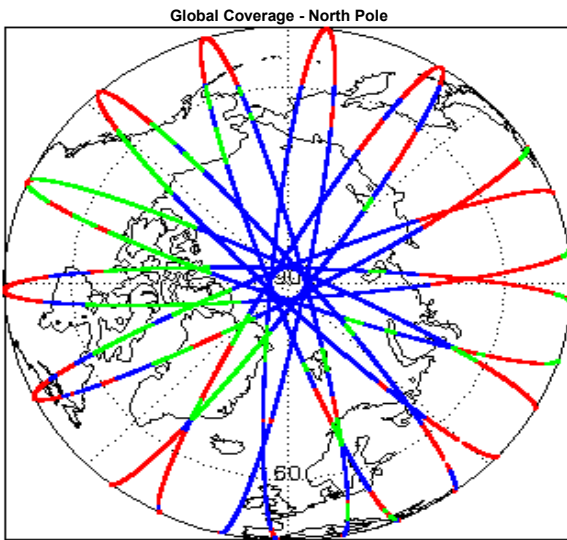
Report Production Date:	23-Jun-2017
Processor Used:	CryoSat Ice Processor
Data Used:	L1B and L2 OFFLINE Data

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	Nominal
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

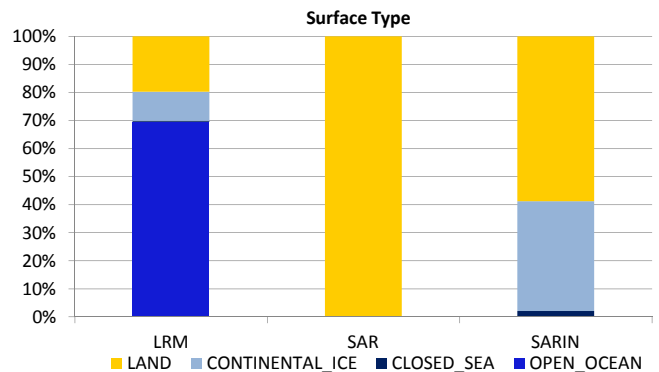
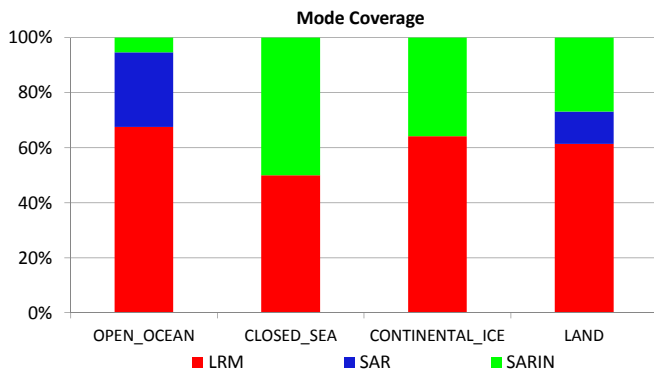
Mission / Instrument News

25-May-2017	None
26-May-2017	None
27-May-2017	Nothing planned

2. Global Coverage



Mode Coverage (%)		
	LRM	21.1
	SAR	13.3
	SARIn	0.0



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: 1

Product	Test Failed
CS_OFFL_SIR_SAR_1B_20170526T211553_20170526T211555_C001.DBL	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: 1

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20170526T044507_20170526T051950_C001	Echo error, TRK echo error	The tracking echo has returned an error and the Rx1 Echo Error flag is set, indicating a degraded echo

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: 1

Product	Test Failed
CS_OFFL_SIR_SAR_2_20170526T211553_20170526T211555_C001.DBL	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: 106

Product	Test Failed	Description
CS_OFFL_SIR_LRM_2__20170525T235206_20170526T000425_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__20170526T000630_20170526T002147_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__20170526T003824_20170526T004844_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__20170526T005504_20170526T010727_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__20170526T014206_20170526T014419_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__20170526T014628_20170526T020045_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__20170526T021511_20170526T024833_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__20170526T025048_20170526T025139_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__20170526T031627_20170526T033944_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__20170526T035415_20170526T042011_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__20170526T042018_20170526T042211_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__20170526T044507_20170526T051950_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__20170526T052652_20170526T053019_C001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_2__20170526T055031_20170526T060801_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__20170526T063135_20170526T064034_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__20170526T065329_20170526T065852_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__20170526T070141_20170526T070716_C001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_2__20170526T071334_20170526T074715_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__20170526T080016_20170526T080120_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__20170526T081945_20170526T083754_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__20170526T085224_20170526T092632_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__20170526T095046_20170526T095507_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__20170526T095603_20170526T101341_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__20170526T102313_20170526T102514_C001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_2__20170526T103230_20170526T105051_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__20170526T105415_20170526T110222_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__20170526T112118_20170526T113910_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__20170526T114028_20170526T115420_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__20170526T121123_20170526T122644_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__20170526T122846_20170526T123808_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__20170526T130056_20170526T130154_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__20170526T130437_20170526T131728_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__20170526T134031_20170526T134828_C001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_2__20170526T135104_20170526T140550_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__20170526T144246_20170526T145216_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__20170526T145249_20170526T151558_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_20170526T134828_20170526T135016_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20170526T143425_20170526T144014_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_20170526T151713_20170526T151901_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20170526T152112_20170526T152135_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20170526T160800_20170526T160817_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_20170526T160914_20170526T160947_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_20170526T165643_20170526T165823_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20170526T165934_20170526T170111_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20170526T170545_20170526T170654_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20170526T170705_20170526T170828_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20170526T183646_20170526T184020_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20170526T184555_20170526T184711_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20170526T201604_20170526T201924_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20170526T202437_20170526T202601_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20170526T210648_20170526T210804_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20170526T215315_20170526T215614_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20170526T220339_20170526T220447_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20170526T224232_20170526T224335_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20170526T224605_20170526T224715_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20170526T233122_20170526T233303_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20170526T234041_20170526T234232_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records

6. QCC Report Analysis

The Quality Control for CryoSat (QCC) facility 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_LRM_1B	140	140	140	0	0
SIR_LRM_2	138	138	138	0	0
SIR_LRMI2	138	138	138	0	0
SIR_SAR_1B	106	106	106	0	0
SIR_SAR_2	106	106	106	0	0
SIR_SARI2	106	106	106	0	0
SIR_SIN_1B	97	97	97	0	0
SIR_SIN_2	97	97	97	0	0
SIR_SINI2	97	97	97	0	0
SIR_GDR_2	14	14	14	0	0

6.1 QCC Errors

Number of products with QCC errors: 0

6.2 QCC Warnings

Number of QCC reports with warnings: 0

6.2 Missing QCC Reports

Number of products with missing QCC reports: 179