

1. Overview

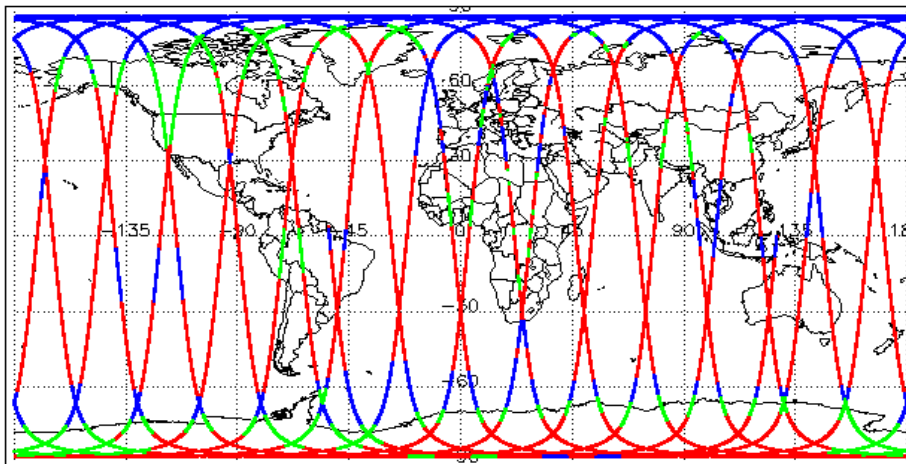
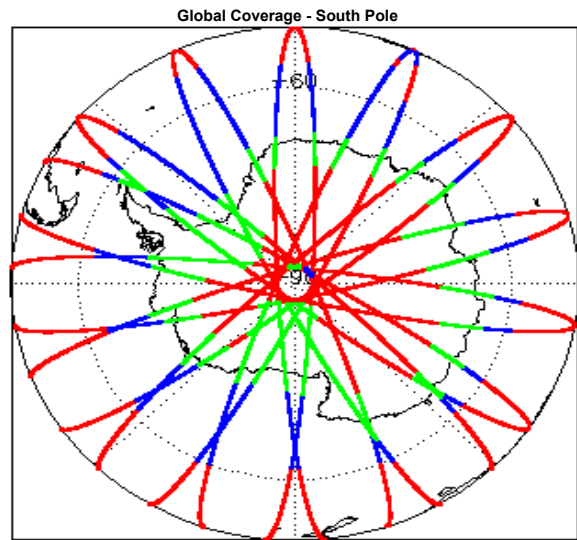
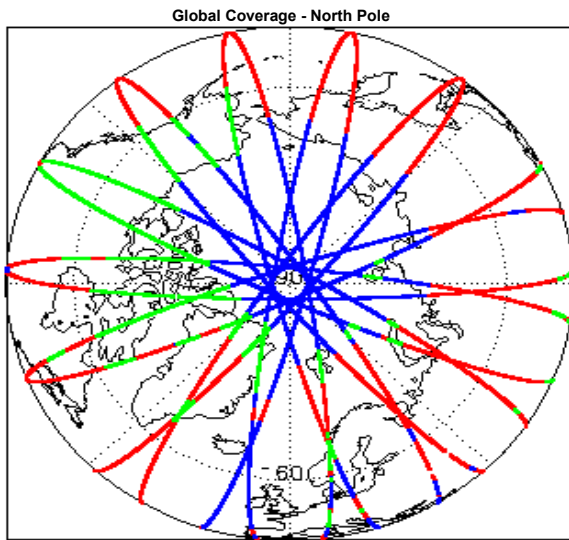
Report Production Date:	31-Oct-2018
Processor Used:	CryoSat Ice Processor
Data Used:	L1B and L2 OFFLINE Data

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	Nominal
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

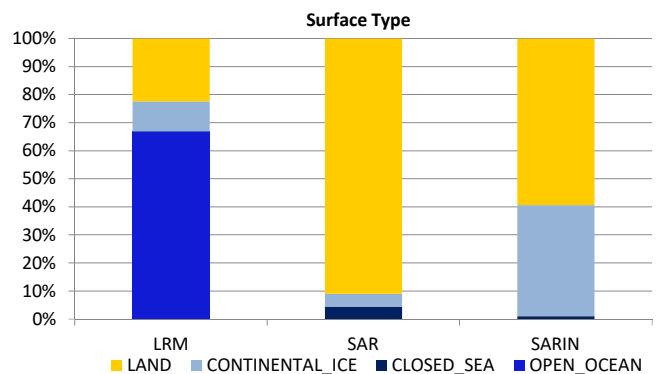
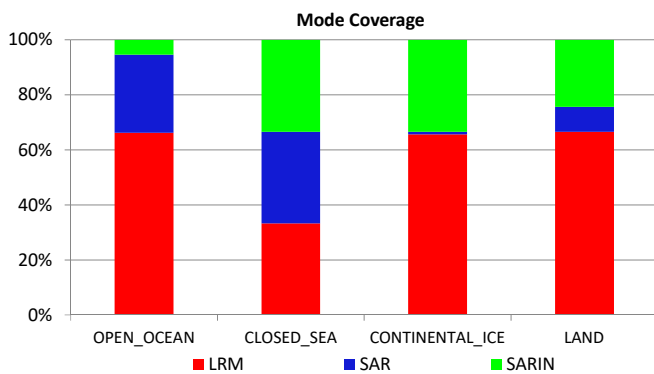
Mission / Instrument News

29-Sep-2018	None
30-Sep-2018	None
01-Oct-2018	Nothing planned

2. Global Coverage



Mode Coverage (%)		
	LRM	21.1
	SAR	12.7
	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
-----------------------------	-----------

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: 0

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: 2

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20180930T155256_20180930T160235_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
CS_OFFL_SIR_LRM_1B_20180930T173318_20180930T173549_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: 0

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: 113

Product	Test Failed	Description
CS_OFFL_SIR_LRM_2__20180929T234806_20180929T235928_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__20180930T000131_20180930T001601_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__20180930T003309_20180930T004516_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__20180930T004958_20180930T010254_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__20180930T010417_20180930T010628_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__20180930T014053_20180930T015440_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__20180930T020347_20180930T020500_C001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_2__20180930T021102_20180930T023631_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__20180930T031016_20180930T033333_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__20180930T034244_20180930T034610_C001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_2__20180930T034947_20180930T040043_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__20180930T040612_20180930T041724_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__20180930T043617_20180930T044415_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__20180930T044915_20180930T051306_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__20180930T052143_20180930T052511_C001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_2__20180930T054526_20180930T060318_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__20180930T061435_20180930T061904_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__20180930T065639_20180930T070206_C001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_2__20180930T070930_20180930T073247_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__20180930T073254_20180930T074417_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__20180930T081416_20180930T083032_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__20180930T083600_20180930T084103_C001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_2__20180930T084802_20180930T092355_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__20180930T094547_20180930T100840_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__20180930T101815_20180930T102007_C001	Surface Model Unavailable	No DEM or Slope Model was used for the location of one or more records
CS_OFFL_SIR_LRM_2__20180930T102802_20180930T104218_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__20180930T104255_20180930T104429_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__20180930T104911_20180930T110237_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__20180930T111612_20180930T113321_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_SIN_2_20180930T165410_20180930T165605_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20180930T170208_20180930T170337_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20180930T183150_20180930T183513_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20180930T184039_20180930T184157_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20180930T201051_20180930T201411_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20180930T201930_20180930T202053_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20180930T210031_20180930T210308_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20180930T214733_20180930T214929_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20180930T215810_20180930T215936_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20180930T223700_20180930T223804_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20180930T224106_20180930T224210_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20180930T232621_20180930T232758_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20180930T233345_20180930T233348_C001	SARIn X-track Angle Error	An ambiguous angle was detected for SARIn mode for one or more records
CS_OFFL_SIR_SIN_2_20180930T233524_20180930T233726_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	No. Products	No. QCC Reports	No. Valid	No. Warnings	No. Errors
SIR_LRM_1B	137	137	137	0	0
SIR_LRM_2	137	137	137	0	0
SIR_LRM12_	137	137	137	0	0
SIR_SAR_1B	94	94	94	0	0
SIR_SAR_2	94	94	94	0	0
SIR_SARI2_	94	94	94	0	0
SIR_SIN_1B	100	100	100	0	0
SIR_SIN_2	100	100	100	0	0
SIR_SINI2	100	100	100	0	0
SIR_GDR_2	15	15	15	0	0

6.1 QCC Errors

Number of products with QCC errors: 0

6.2 QCC Warnings

Number of QCC reports with warnings: 0

6.3 Missing QCC Reports

Number of products with missing QCC reports: 177