

1. Overview

Report Production Date: 25-Jun-2015	Data Used:	OFFLINE L1B and L2 Science Data	Geophysical Ocean Products (GOP) L1B and L2 Science Data
	Check	Status	Status
	Server check: science-pds.cryosat.esa.int	Nominal	Nominal
	Server check: calval-pds.cryosat.esa.int	Nominal	Nominal
	Product Software Check	Nominal	Nominal
	Product Format Check	Nominal	Nominal
	Product Header Analysis	Nominal	Nominal
	Auxiliary Data File Usage Check	Nominal	Nominal
	Auxiliary Correction Data Check	Nominal	Nominal
	Measurement Confidence Data Check	See Section 4.5 and 5.5	See Section 7.5, 7.6, 8.5 and 8.6

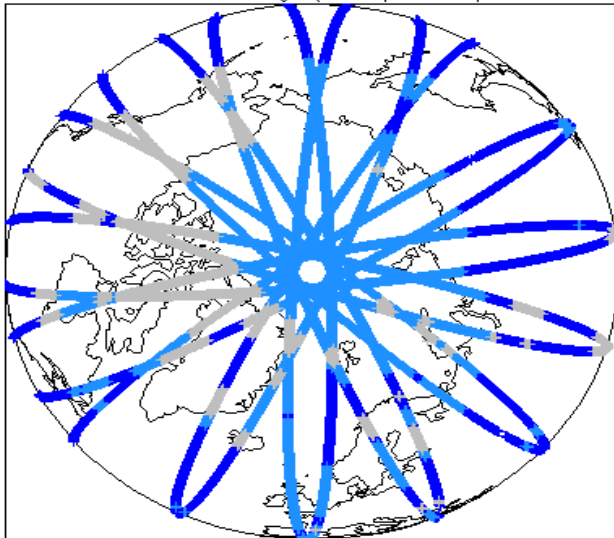
Mission / Instrument News	
18-May-2015	None
19-May-2015	None
20-May-2015	Nothing planned

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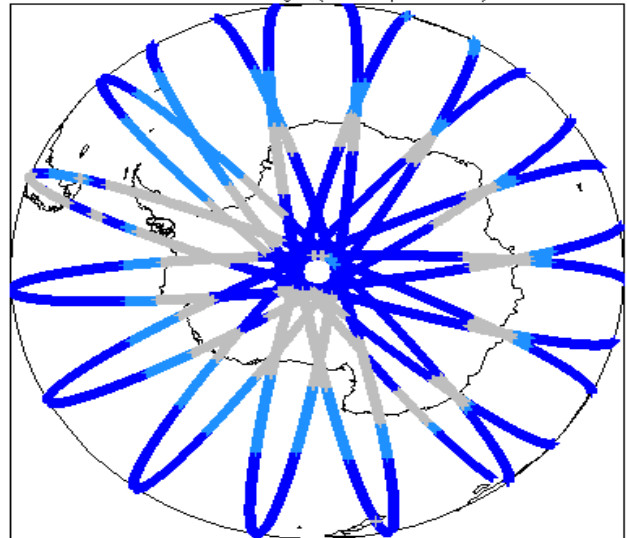
2	Global Coverage	OFFLINE Science Data	4	Level 1B Data Quality Check	GOP Science Data	7	Level 1B Data Quality Check
3	Instrument Configuration	4.1	L1B Product Format Check	7.1	L1B Product Format Check		
		4.2	L1B Product Header Analysis	7.2	L1B Product Header Analysis		
		4.3	L1B Auxiliary Data File Usage Check	7.3	L1B Auxiliary Data File Usage Check		
		4.4	L1B Auxiliary Correction Error Check	7.4	L1B Auxiliary Correction Error Check		
		4.5	L1B Measurement Confidence Data Check	7.5	L1B Measurement Confidence Data Check		
				7.6	L1B Waveform Group Data Check		
		5	Level 2 Data Quality Check	8	Level 2 Data Quality Check		
		5.1	L2 Product Format Check	8.1	L2 Product Format Check		
		5.2	L2 Product Header Analysis	8.2	L2 Product Header Analysis		
		5.3	L2 Auxiliary Data File Usage Check	8.3	L2 Auxiliary Data File Usage Check		
		5.4	L2 Auxiliary Correction Error Check	8.4	L2 Measurement Confidence Data Check		
		5.5	L2 Measurement Quality Flag Check	8.5	L2 Range Measurement Check		
		6	QCC Check	8.6	L2 SWH and Backscatter Measurement Check		
		6.1	QCC Errors				
		6.2	Missing QCC Reports				

2. Global Coverage

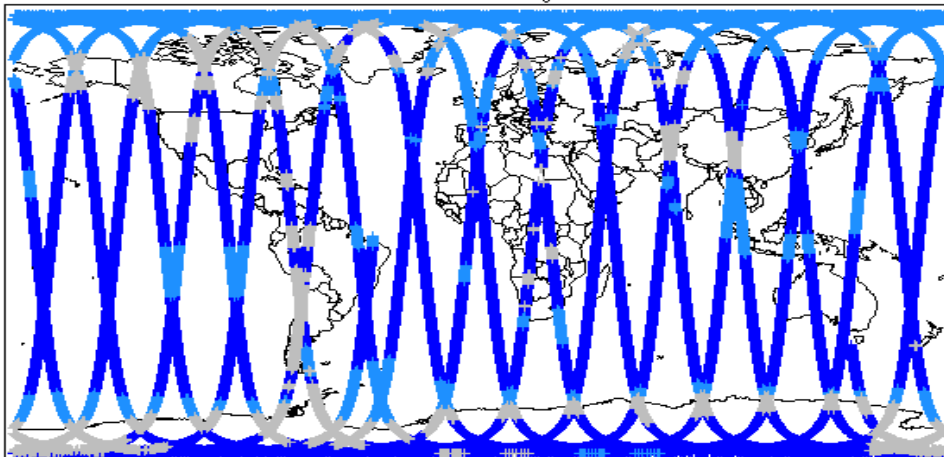
Global Coverage (north pole view)



Global Coverage (south pole view)

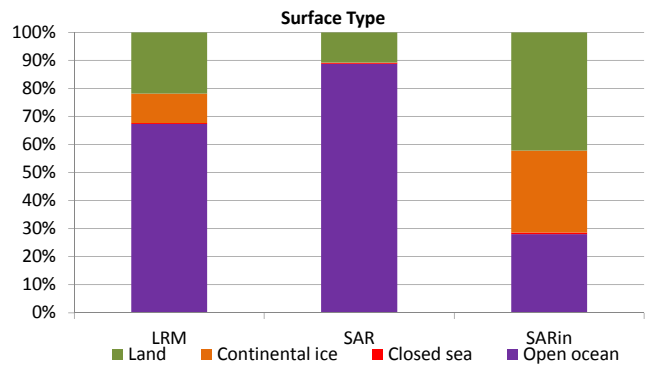
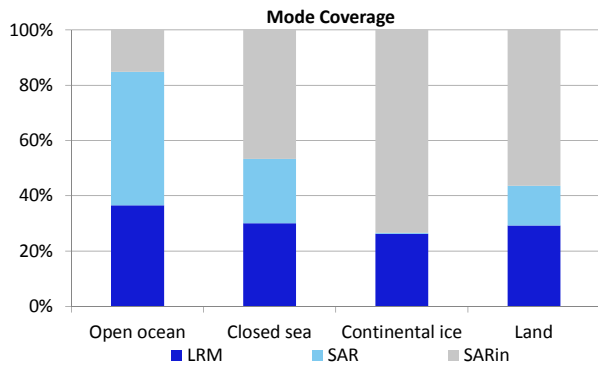


Global Coverage



Mode Coverage (%)

	LRM	65.38
	SAR	21.43
	SIN	12.99



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. OFFLINE 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 performed 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 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

4.4 L1B Auxiliary Correction Error Check

Each product is checked for auxiliary corrections flagged by the ground-station processing chain as missing or containing errors.

Number of products with errors: 0

4.5 L1B Measurement Confidence Data Check

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

Number of products with errors: 3

Product	Test Failed	Description
CS_OFFL_SIR_LRM_1B_20150519T043237_20150519T043722_C001	Echo error	The tracking echo has returned an error
CS_OFFL_SIR_LRM_1B_20150519T045421_20150519T045727_C001	Echo error	The tracking echo has returned an error
CS_OFFL_SIR_SIN_1B_20150519T045258_20150519T045421_C001	Echo error	The tracking echo has returned an error

5. OFFLINE 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 performed 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

Each product is checked for auxiliary corrections flagged by the ground-station processing chain as missing or containing errors.

Number of products with errors: 0

5.5 L2 Measurement Quality Flag Check

CryoSat L2 data includes a quality flag word (field 50) for each 20-Hz measurement record. The bit value of this flag is an assessment of the measurement quality by the processing chain.

There are several common Quality Flag errors raised in the L2 products which are either expected due to operational mode or surface type, or are under investigation. These known issues are summarised 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.

SARin x-track angle error: This flag is set when the difference between the computed surface elevation and the DEM is >50m. The DEM is only available over Greenland and Antarctica and therefore this flag is set for L2 SIN products in all other locations.

Height error and Backscatter errors: The height error and backscatter error flags are set for a number of products over land areas, but this is to be expected.

SSHA interpolation error: This flag is currently set for a number of products in all modes. This issue is under investigation.

Number of products with errors: 48

Product	Test Failed	Description
CS_OFFL_SIR_SAR_2_20150519T011140_20150519T011338_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T012201_20150519T012836_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T013540_20150519T013713_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T013735_20150519T013809_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T023921_20150519T024735_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T030134_20150519T030754_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T031248_20150519T031306_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T031341_20150519T031553_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T043911_20150519T044131_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T044147_20150519T044244_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T044318_20150519T044755_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T061956_20150519T062958_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T070707_20150519T071015_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T080111_20150519T080857_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T081035_20150519T081130_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T084638_20150519T084935_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T085933_20150519T090112_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T093014_20150519T093745_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T093800_20150519T094020_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T094132_20150519T094903_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T094929_20150519T095137_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T103819_20150519T104128_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T112046_20150519T112800_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T121603_20150519T122251_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T125442_20150519T125719_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T130000_20150519T130714_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T131518_20150519T131658_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T143116_20150519T143331_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T143842_20150519T144557_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T145933_20150519T150600_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T161704_20150519T162543_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T163841_20150519T163955_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T175357_20150519T180135_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T180153_20150519T180305_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T180355_20150519T180422_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T180442_20150519T180601_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T181105_20150519T181156_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T185326_20150519T185555_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T193120_20150519T193154_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T193329_20150519T194252_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T194647_20150519T194711_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T202032_20150519T202214_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T203208_20150519T203536_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T211202_20150519T212028_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T225300_20150519T225910_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T225937_20150519T230040_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T230113_20150519T230330_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2_20150519T233537_20150519T234237_C001	Peakiness error	There is an error in the peakiness derivation

6. OFFLINE 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.

NB. There is currently a discrepancy between the number of QCC reports and the number of products reported. This is a known issue and investigation is on-going.

Product type	Nb. Products	Nb. QCC Reports	Nb. Valid	Nb. Warnings	Nb. Errors
SIR_GDR_2A	16	0	0	0	0
SIR_LRM_1B	154	0	0	0	0
SIR_LRM_2	151	0	0	0	0
SIR_SAR_1B	118	0	0	0	0
SIR_SAR_2A	118	0	0	0	0
SIR_SIN_1B	105	0	0	0	0
SIR_SIN_2	105	0	0	0	0

6.1 QCC Errors

Number of products with QCC errors: 0

6.2 Missing QCC Reports

Number of products with missing QCC reports: All

7. GOP Level 1B Data Quality Check

7.1 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

7.2 L1B Product Header Analysis

For all products, a series of pre-defined checks are performed 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

7.3 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

7.4 L1B Auxiliary Correction Error Check

Each product is checked for auxiliary corrections flagged by the ground-station processing chain as missing or containing errors.

Number of products with errors: 0

7.5 L1B Measurement Confidence Data Check

CryoSat L1B data includes a measurement confidence flag (field 12) for each measurement record. The bit value of this flag indicates any problems when set.

Number of products with errors: 2

Product	Test Failed	Description
CS_OFFL_SIR_GOP_1B_20150519T043237_20150519T043722_B001	Power scaling error	There has been an error in the scaling of the L1B waveform
CS_OFFL_SIR_GOP_1B_20150519T045421_20150519T045727_B001	Power scaling error	There has been an error in the scaling of the L1B waveform

7.6 L1B Waveform Group Data Check

CryoSat L1B data includes a waveform data flag (field 65) for each measurement record. The bit value of this flag indicates any problems when set.

Loss of Echo Flag: This flag is currently set for a large number of products over land, indicating that the tracking echo is missing.

Number of products with errors: 42

8. GOP Level 2 Data Quality Check

8.1 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

8.2 L2 Product Header Analysis

For all products, a series of pre-defined checks are performed 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

8.3 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

8.4 L2 Measurement Confidence Data Check

CryoSat L2 data includes a quality flag (field 14) for each 20-Hz measurement record. The bit value of this flag is an assessment of the measurement quality by the processing chains.

Number of products with errors: 0

8.5 L2 Range Measurement Check

Each product is checked to detect range measurements flagged by the processing chain as missing or containing errors.

Ocean Range Averaging Status Flag: This flag is currently set for products over land and sea ice, but this is to be expected.

Ice Range Averaging Status Flag: This flag is currently set for some products over land and continental ice.

Number of products with errors: 244

8.6 L2 SWH and Backscatter Measurement Check

Each product is checked to detect parameters related to SWH and sigma0 that are flagged by the processing chain as missing or containing errors.

SWH Averaging Status Flag: This flag is currently set for products over land and sea ice, but this is to be expected.

Ocean Backscatter Averaging Status Flag: This flag is currently set for products over land and sea ice, but this is to be expected.

Ice Backscatter Averaging Status Flag: This flag is currently set for some products over land and continental ice.

Number of products with errors: 218