1. Overview

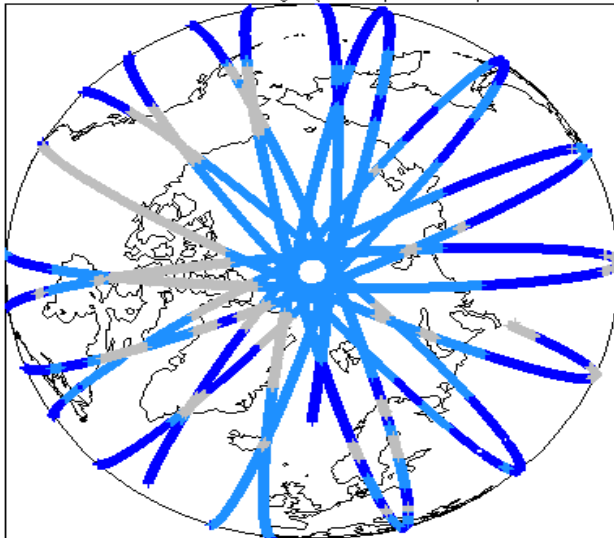| Report Production Date:	Data Used:	OFFLINE L1B and L2 Science Data	Geophysical Ocean Products (GOP) L1B and L2 Science Data
11-Jun-2015	Check	Status	Status
	Server check: science-pds.cryosat.esa.int	Nominal	Nominal
	Server check: calval-pds.cryosat.esa.int	Nominal	Nominal
	Product Software Check	Nominal	Nominal
	Product Format Check	Nominal	Nominal
	Product Header Analysis	Nominal	Nominal
	Auxiliary Data File Usage Check	See Section 5.3	Nominal
	Auxiliary Correction Data Check	Nominal	Nominal
	Measurement Confidence Data Check	See Section 5.5	See Section 7.6, 8.5 and 8.6

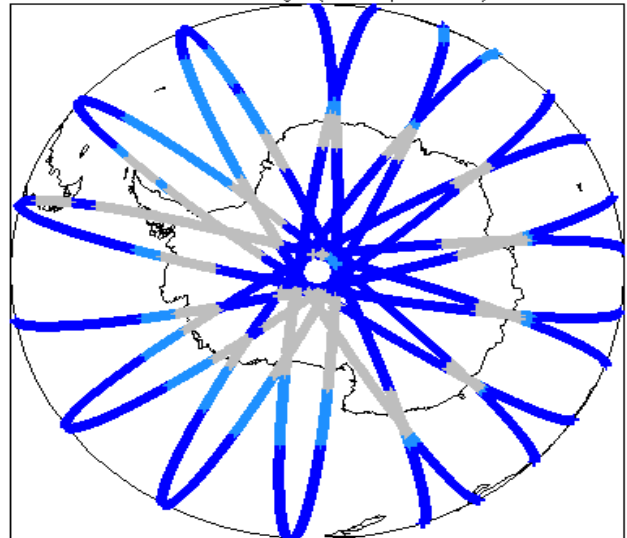| Mission / Instrument News	
06-Apr-2015	None
07-Apr-2015	SIRAL unavailability on 7-April-2015 from 18:00:51 to 18:57:27 due to a planned orbit manoeuvre.
08-Apr-2015	Nothing planned

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2. Global Coverage

Global Coverage (north pole view)

Global Coverage (south pole view)

Global Coverage
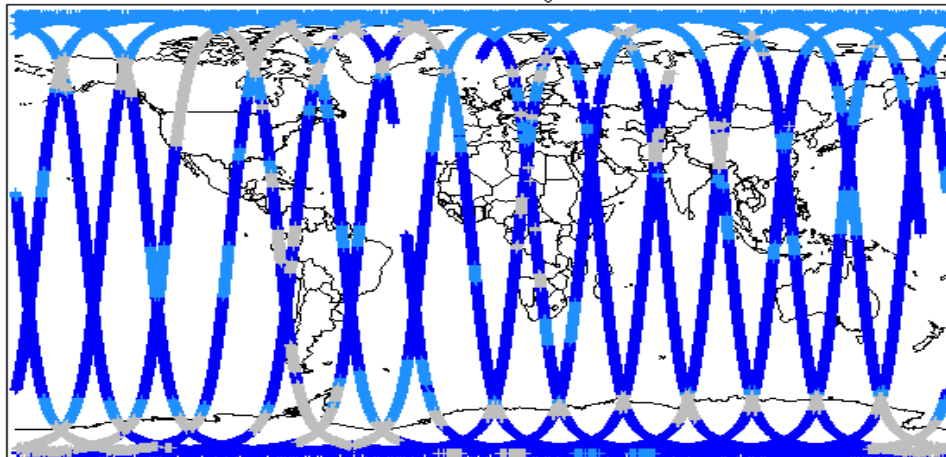
Mode Coverage (%)

	LRM	66.39
	SAR	21.36
	SIN	12.05

Mode Coverage

Open ocean / Closed sea / Continental ice / Land
■ LRM ■ SAR ■ SARin

Surface Type

LRM / SAR / SARin
■ Land ■ Continental ice ■ Closed sea ■ Open ocean
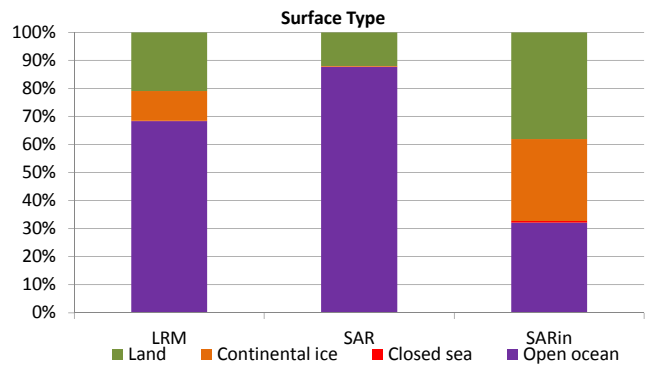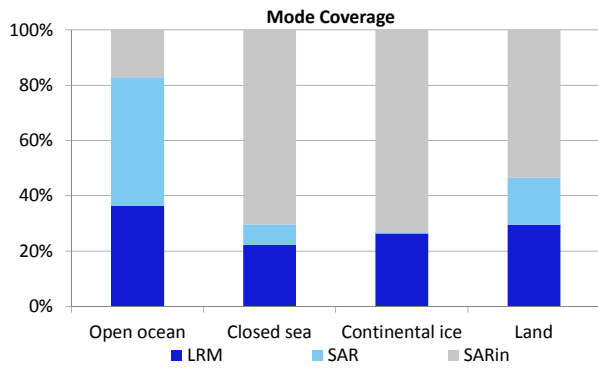
3. Instrument Configuration

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

SIRAL instrument(s) in use:	SIRAL - A

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:　　　0

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:　　　1

Product	AUX File	Comment
CS_OFFL_SIR_GDR_2__20150407T232328_20150408T010241_C001	CS_OPER_AUX_ORBDOR_20150406T215525_20150408T002325_0001	Coverage missing for intervals [2015-04-08T00:23:25, 2015-04-08T01:02:41]

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: 44

Product	Test Failed	Description
CS_OFFL_SIR_SAR_2__20150407T002903_20150407T003147_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T003307_20150407T004544_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T012057_20150407T012438_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T020653_20150407T020947_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T021251_20150407T021955_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T024213_20150407T024427_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T030128_20150407T030211_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T033034_20150407T033234_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T034208_20150407T034344_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T035243_20150407T035417_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T035441_20150407T035910_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T040148_20150407T040337_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T051703_20150407T051741_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T053120_20150407T053823_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T054338_20150407T054628_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T055209_20150407T055323_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T065726_20150407T065746_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T070929_20150407T071130_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T071337_20150407T071842_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T075858_20150407T080103_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T084731_20150407T084903_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T085040_20150407T090044_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T103122_20150407T103942_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T111723_20150407T111948_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T115758_20150407T115930_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T115946_20150407T120924_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T121209_20150407T121954_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T130831_20150407T131040_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T135110_20150407T135655_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T144626_20150407T145214_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T152011_20150407T152131_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T152212_20150407T152449_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T152608_20150407T152808_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T153024_20150407T153707_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T154552_20150407T154729_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T165310_20150407T165430_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T170124_20150407T170356_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T194451_20150407T194641_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T202419_20150407T203156_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T212342_20150407T212547_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T220331_20150407T221311_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T221703_20150407T221904_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T230221_20150407T230518_C001	Peakiness error	There is an error in the peakiness derivation
CS_OFFL_SIR_SAR_2__20150407T234200_20150407T235119_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	17	0	0	0	0
SIR_LRM_1B	158	0	0	0	0
SIR_LRM_2	156	0	0	0	0
SIR_SAR_1B	110	0	0	0	0
SIR_SAR_2A	109	0	0	0	0
SIR_SIN_1B	89	0	0	0	0
SIR_SIN_2	89	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 Auxilary 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: 0

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: 46

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: 227

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: 202