

1. Overview

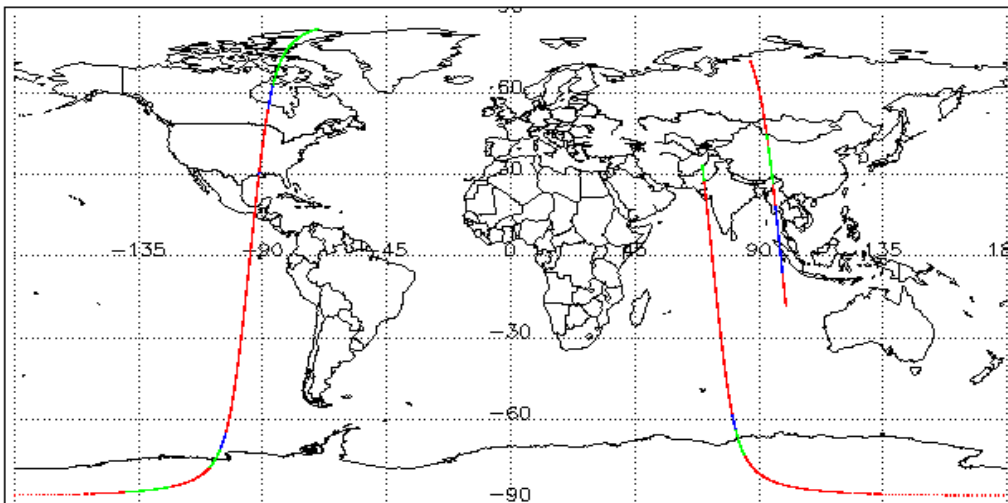
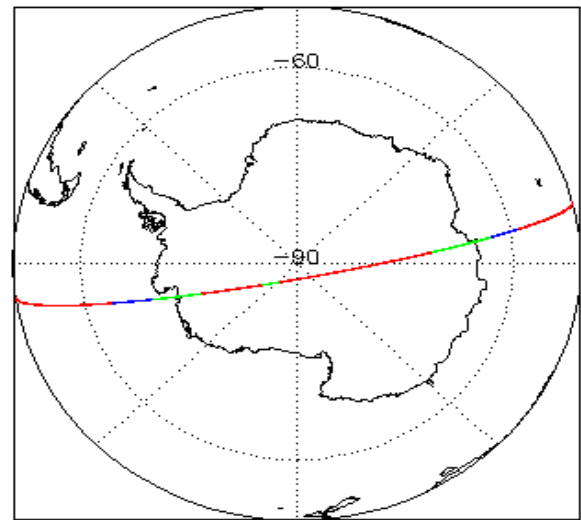
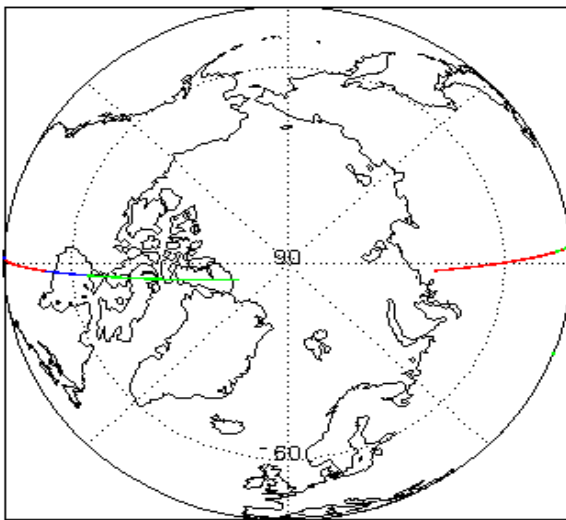
Report Production:	09-Jul-2019
Processor Used:	CryoSat Ocean Processor
Data Used:	Near Real Time Ocean Products (NOP) L1B & L2 Science Data

Check	L1 & L2
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
Auxiliary Data File Usage Check	Nominal
Auxiliary Correction Error Check	See Section 5.4
Measurement Confidence Data Check	See Section 4.5
Measurement Quality Flag Check	See Section 5.6
Ocean Retracking Quality Check	See Section 5.7

Mission / Instrument News

06-Jul-2019	None
07-Jul-2019	SIRAL unavailability on 07-Jul-2019 from 01:53:23 to 08-Jul-2019 07:47:50 due to a unplanned platform anomaly.
08-Jul-2019	SIRAL unavailability on 07-Jul-2019 from 01:53:23 to 08-Jul-2019 07:47:50 due to a unplanned platform anomaly.

2. Global Coverage



Mode Coverage

	LRM
	SAR
	SARIn

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. NOP 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 binary 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.

L1B Processing Quality HR: The l1b_proc_flag_hr flag is currently set all L1B IOPR and IOPN products because the l1b_processing_quality_hr field is not correctly configured in the OSAR and OSARIn chains. A modification is required in the next release.

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.

Dynamic Atmospheric Correction: The DAC is missing in all products because the auxiliary files required are not available in time for processing. This known and expected behaviour.

Number of products with errors: 0

4.4 L1B Auxiliary Correction Error Check

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

Number of products with errors: 0

4.5 L1B Measurement Confidence Data Check

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

> **Attitude Correction Missing:** This flag is currently set in error for NOPR products due to a configuration issue. This is being investigated and will be updated in the next SW update.

Number of products with errors: 0

4.6 L1B Waveform Group Data Check

CryoSat L1B data includes a waveform data flag 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 products over land, but this is to be expected.

Number of products with errors: 0

5. NOP 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 binary 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

For all products, the auxiliary corrections within the Geophysical Group are checked for the default error value (32767).

Currently, there are some common auxiliary correction errors raised in the Level 2 products which are expected due to surface type. All common flags are summarised in the list below, followed by a table highlighting any additional issues which may arise from this test.

> **ECMWF Meteo Corrections:** Currently the following corrections are not computed over CONTINENTAL ICE: Dry Tropospheric Correction, Wet Tropospheric Correction, Inverse Barometric Correction and the U-Wind and V-Wind components of the ECMWF model wind vector. This is a known anomaly (CRYO-COP-3) and will be resolved in a future IPF update.

> **Mean Sea Surface:** The error value is currently set for products over land and sea ice, but this is to be expected.

> **Mean Dynamic Topography:** The error value is currently set for products over land and sea ice, but this is to be expected.

> **Altimetric Wind Speed Error:** The error value is currently set for products over land and sea ice, but this is to be expected.

Number of products with errors: 2

Product	Test Failed	Description
CS_OFFL_SIR_NOPN_2_20190707T003120_20190707T003710_C001	Mean Sea Surface (1), Mean Dynamic Topography (1), Total Geocentric Ocean Tide (GOT)	There is an error with the MSS height (solution 1), the Mean Dynamic Topography height (solution 1) and the Total Geocentric Ocean Tide height (solution 1: GOT) for one or more records
CS_OFFL_SIR_NOPN_2_20190707T012403_20190707T012635_C001	Mean Dynamic Topography (1)	There is an error with the Mean Dynamic Topography height for one or more records

5.5 L2 Measurement Confidence Data Check

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

Number of products with errors: 0

5.6 L2 Measurement Quality Flag Check

L2 Quality Flags (20Hz)

CryoSat L2 data includes Quality Flags for each 20 Hz, 20 Hz PLRM and 1 Hz measurement record. The bit value of this flag indicates any problems when set.

Currently, there are several common flags raised in the Level 2 products, which are summarised below. The table provides the full list of products flagged.

> **Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags:** These flags are currently set for some records over ocean.

> **OCOG Altimeter Range and Backscatter Quality Flags:** These flags are currently set for some records over continental ice.

Number of products with errors: 5

Product	Test Failed	Description
CS_OFFL_SIR_NOPM_2_20190706T234803_20190707T000318_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20190707T004613_20190707T011233_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20190707T011841_20190707T012403_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPM_2_20190707T012805_20190707T015152_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality, OCOG Altimeter Range and Backscatter Quality	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20190707T003711_20190707T003936_C001	OCOG Altimeter Range Quality, OCOG Backscatter Quality	The OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.

L2 Quality Flags (20Hz PLRM)

Currently, there are several common flags raised in the Level 2 products, which are summarised below. The table provides the full list of products flagged.

> **Ocean Altimeter Range, SSHA, SWH and Backscatter PLRM Quality Flags:** These flags are currently set for occasional records over sea ice.

> **OCOG Altimeter Range and Backscatter PLRM Quality Flags:** These flags are currently set for occasional records over continental ice.

Number of products with errors: 4

Product	Test Failed	Description
CS_OFFL_SIR_NOPN_2_20190707T003120_20190707T003710_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPN_2_20190707T012403_20190707T012635_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20190707T000600_20190707T000954_C001	OCOG Altimeter Range Quality PLRM, OCOG Backscatter Quality	The OCOG Range and Backscatter Quality Flags have been set for one or more records.
CS_OFFL_SIR_NOPR_2_20190707T011234_20190707T011414_C001	Ocean Altimeter Range, SSHA, SWH and Backscatter Quality PLRM, OCOG Altimeter Range and Backscatter Quality PLRM	The Ocean Altimeter Range, SSHA, SWH and Backscatter Quality Flags and the OCOG Altimeter Range and Backscatter Quality Flags have been set for one or more records.

L2 Quality Flags (1 Hz & 1Hz PLRM)

Currently, there are several common flags raised in the Level 2 products, which are summarised below.

> **1Hz and 1Hz Ocean SSHA Quality Flags:** These flags are currently set for products over sea ice, which is to be expected.

Number of products with errors: 9

Product	Test Failed	Description
CS_OFFL_SIR_NOPM_2_20190706T234803_20190707T000318_C001	Ocean SSHA Quality	The 1Hz Ocean SSHA Quality Flags are set for one or more records.
CS_OFFL_SIR_NOPM_2_20190707T004613_20190707T011233_C001	Ocean SSHA Quality	The 1Hz Ocean SSHA Quality Flags are set for one or more records.
CS_OFFL_SIR_NOPM_2_20190707T012805_20190707T015152_C001	Ocean SSHA Quality	The 1Hz Ocean SSHA Quality Flags are set for one or more records.
CS_OFFL_SIR_NOPN_2_20190707T003120_20190707T003710_C001	Ocean SSHA Quality, Ocean SSHA Quality PLRM	The 1Hz and 1Hz PLRM Ocean SSHA Quality Flags are set for one or more records.
CS_OFFL_SIR_NOPN_2_20190707T012403_20190707T012635_C001	Ocean SSHA Quality, Ocean SSHA Quality PLRM	The 1Hz and 1Hz PLRM Ocean SSHA Quality Flags are set for one or more records.
CS_OFFL_SIR_NOPR_2_20190707T000319_20190707T000551_C001	Ocean SSHA Quality, Ocean SSHA Quality PLRM	The 1Hz and 1Hz PLRM Ocean SSHA Quality Flags are set for one or more records.
CS_OFFL_SIR_NOPR_2_20190707T003711_20190707T003936_C001	Ocean SSHA Quality, Ocean SSHA Quality PLRM	The 1Hz and 1Hz PLRM Ocean SSHA Quality Flags are set for one or more records.
CS_OFFL_SIR_NOPR_2_20190707T011234_20190707T011414_C001	Ocean SSHA Quality, Ocean SSHA Quality PLRM	The 1Hz and 1Hz PLRM Ocean SSHA Quality Flags are set for one or more records.
CS_OFFL_SIR_NOPR_2_20190707T012635_20190707T012805_C001	Ocean SSHA Quality, Ocean SSHA Quality PLRM	The 1Hz and 1Hz PLRM Ocean SSHA Quality Flags are set for one or more records.

5.7 L2 Ocean Retracking Quality Check

L2 Retracking Flags (20Hz)

CryoSat L2 data includes an ocean retracking quality flag for each 20-Hz measurement record. The bit value of this flag indicates any problems when set.

Ocean Retracking Quality Flag: This flag is currently set for products falling at ocean/ land boundaries, but this is expected.

Number of products with errors: 3

Product	Test Failed	Description
CS_OFFL_SIR_NOPM_2_20190707T004613_20190707T011233_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_NOPM_2_20190707T012805_20190707T015152_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_NOPR_2_20190707T000600_20190707T000954_C001	Ocean Retracking Quality Flag	The Ocean Retracking Quality Flag has been set for one or more records.

L2 Retracking Flags (20Hz, PLRM)

CryoSat L2 data includes an ocean retracking quality flag for each 20-Hz PLRM measurement record. The bit value of this flag indicates any problems when set.

Ocean Retracking Quality Flag (PLRM): This flag is currently set for products NOPR and NOPN products over sea ice, but this is to be expected.

Number of products with errors: 8

Product	Test Failed	Description
CS_OFFL_SIR_NOPN_2_20190707T003120_20190707T003710_C001	Ocean Retracking Quality (PLRM)	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_NOPN_2_20190707T011414_20190707T011601_C001	Ocean Retracking Quality (PLRM)	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_NOPN_2_20190707T012403_20190707T012635_C001	Ocean Retracking Quality (PLRM)	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_NOPR_2_20190707T000319_20190707T000551_C001	Ocean Retracking Quality (PLRM)	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_NOPR_2_20190707T000600_20190707T000954_C001	Ocean Retracking Quality (PLRM)	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_NOPR_2_20190707T003711_20190707T003936_C001	Ocean Retracking Quality (PLRM)	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_NOPR_2_20190707T011234_20190707T011414_C001	Ocean Retracking Quality (PLRM)	The Ocean Retracking Quality Flag has been set for one or more records.
CS_OFFL_SIR_NOPR_2_20190707T012635_20190707T012805_C001	Ocean Retracking Quality (PLRM)	The Ocean Retracking Quality Flag has been set for one or more records.