

**1. Overview**

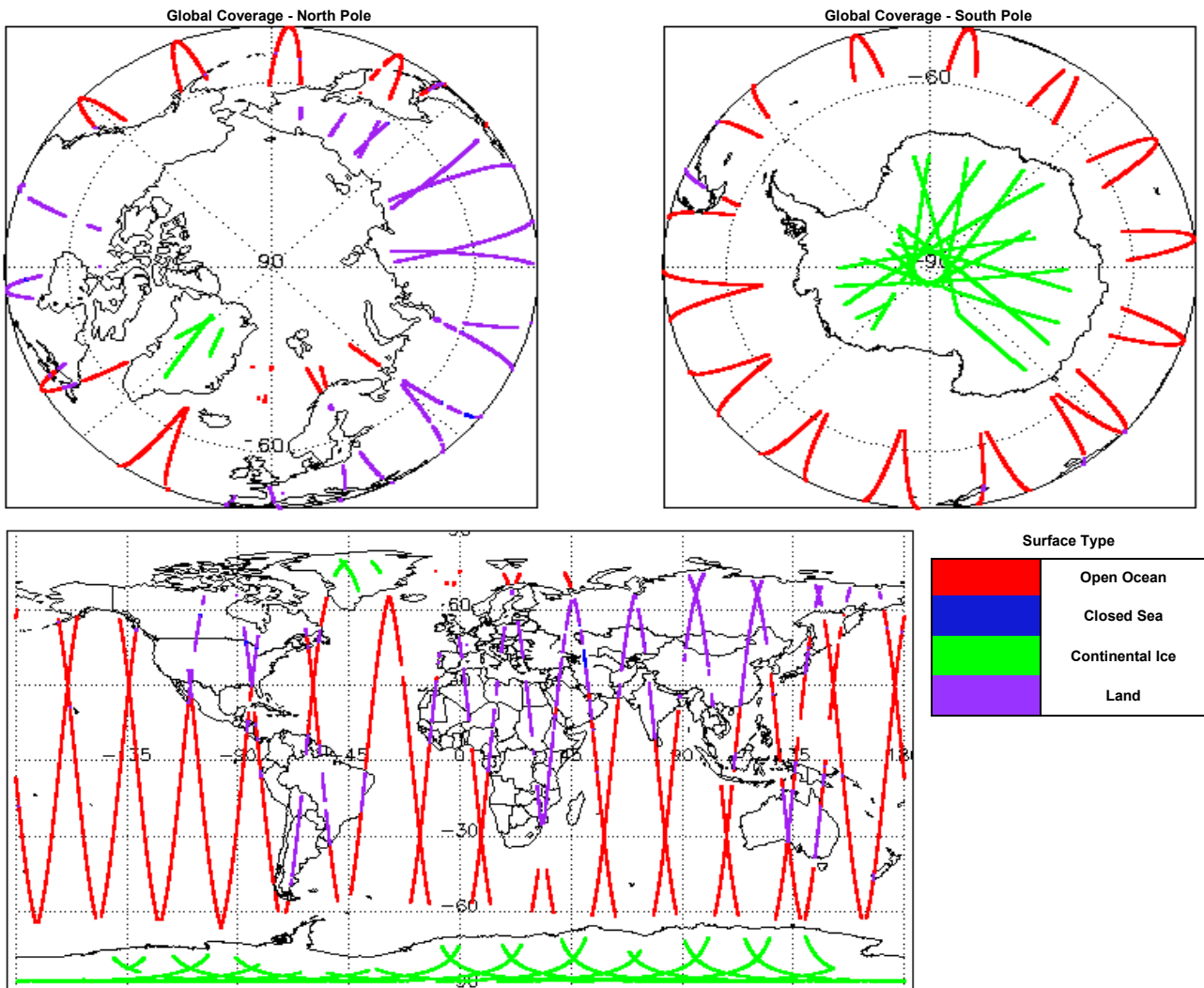
|                                |                                                       |
|--------------------------------|-------------------------------------------------------|
| <b>Report Production Date:</b> | 06-Jan-2020                                           |
| <b>Processor Used:</b>         | CryoSat Ice Processor                                 |
| <b>Data Used:</b>              | L1 and L2 Fast Delivery Marine (FDM) Mode and L0 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, 5.2 and 6.2           |
| Star Tracker Usage Check                  | See Section 5.3                        |
| Calibration Usage Check                   | Nominal                                |
| Auxiliary Data File Usage Check           | Nominal                                |
| Auxiliary Correction Error Check          | See Section 6.4                        |
| Measurement Confidence Data Check         | See Section 5.7, 6.5, 6.6, 6.7 and 6.8 |

**Mission / Instrument News**

|             |                 |
|-------------|-----------------|
| 04-Jan-2020 | None            |
| 05-Jan-2020 | None            |
| 06-Jan-2020 | Nothing planned |

**2. Global Coverage**



**3. Instrument Configuration**

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

|                                    |                |
|------------------------------------|----------------|
| <b>SIRAL instrument(s) in use:</b> | SIRAL - A      |
| <b>Star Tracker(s) in use:</b>     | Star Tracker 1 |

**4. Level 0 Data Quality Check**

**4.1 L0 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 L0 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 processing chain.

Number of products with errors: 13

| Product                                                    | Test Failed                                                                         |
|------------------------------------------------------------|-------------------------------------------------------------------------------------|
| CS_OPER_SIR1SAR_0_20200105T054538_20200105T054629_0001.HDR | Percentage of processing errors detected greater than minimum acceptable threshold. |
| CS_OPER_SIR1SAR_0_20200105T082335_20200105T082637_0001.HDR | Percentage of processing errors detected greater than minimum acceptable threshold. |
| CS_OPER_SIR1SAR_0_20200105T122008_20200105T122620_0001.HDR | Percentage of processing errors detected greater than minimum acceptable threshold. |
| CS_OPER_SIR1SAR_0_20200105T192016_20200105T192515_0001.HDR | Percentage of processing errors detected greater than minimum acceptable threshold. |
| CS_OPER_SIR1SAR_0_20200105T194718_20200105T194840_0001.HDR | Percentage of processing errors detected greater than minimum acceptable threshold. |
| CS_OPER_SIR1SAR_0_20200105T221813_20200105T221952_0001.HDR | Percentage of processing errors detected greater than minimum acceptable threshold. |
| CS_OPER_SIR1SIN_0_20200105T081332_20200105T081559_0001.HDR | Percentage of processing errors detected greater than minimum acceptable threshold. |
| CS_OPER_SIR1SIN_0_20200105T105144_20200105T105704_0001.HDR | Percentage of processing errors detected greater than minimum acceptable threshold. |
| CS_OPER_SIR1SIN_0_20200105T200406_20200105T200550_0001.HDR | Percentage of processing errors detected greater than minimum acceptable threshold. |
| CS_OPER_SIR1SIN_0_20200105T213330_20200105T213422_0001.HDR | Percentage of processing errors detected greater than minimum acceptable threshold. |
| CS_OPER_SIR2SIN_0_20200105T030510_20200105T030631_0001.HDR | Percentage of processing errors detected greater than minimum acceptable threshold. |
| CS_OPER_SIR2SIN_0_20200105T150851_20200105T151014_0001.HDR | Percentage of processing errors detected greater than minimum acceptable threshold. |
| CS_OPER_SIR2SIN_0_20200105T163014_20200105T163136_0001.HDR | Percentage of processing errors detected greater than minimum acceptable threshold. |

## 5. Level 1B FDM Data Quality Check

### 5.1 L1B FDM 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 L1B FDM 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: 10

| Product                                                     | Test Failed                                                                            |
|-------------------------------------------------------------|----------------------------------------------------------------------------------------|
| CS_OFFL_SIR_FDM_1B_20200105T000008_20200105T000157_C001.DBL | FOS Predicted Orbit (MPL_ORBPRED) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_1B_20200105T000157_20200105T000328_C001.DBL | FOS Predicted Orbit (MPL_ORBPRED) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_1B_20200105T163137_20200105T163151_C001.DBL | FOS Predicted Orbit (MPL_ORBPRED) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_1B_20200105T163151_20200105T163152_C001.DBL | FOS Predicted Orbit (MPL_ORBPRED) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_1B_20200105T180749_20200105T180803_C001.DBL | FOS Predicted Orbit (MPL_ORBPRED) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_1B_20200105T180803_20200105T181038_C001.DBL | FOS Predicted Orbit (MPL_ORBPRED) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_1B_20200105T194523_20200105T194558_C001.DBL | FOS Predicted Orbit (MPL_ORBPRED) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_1B_20200105T194558_20200105T194718_C001.DBL | FOS Predicted Orbit (MPL_ORBPRED) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_1B_20200105T230113_20200105T230820_C001.DBL | FOS Predicted Orbit (MPL_ORBPRED) used instead of the DORIS Navigator Orbit (DOR_NAV). |
| CS_OFFL_SIR_FDM_1B_20200105T230821_20200105T230835_C001.DBL | FOS Predicted Orbit (MPL_ORBPRED) used instead of the DORIS Navigator Orbit (DOR_NAV). |

### 5.3 L1B FDM 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: 5

| Product                                                 | Test Failed                                                 |
|---------------------------------------------------------|-------------------------------------------------------------|
| CS_OFFL_SIR_FDM_1B_20200105T000008_20200105T000157_C001 | No Star Tracker file used in the processing of this product |
| CS_OFFL_SIR_FDM_1B_20200105T163137_20200105T163151_C001 | No Star Tracker file used in the processing of this product |
| CS_OFFL_SIR_FDM_1B_20200105T180749_20200105T180803_C001 | No Star Tracker file used in the processing of this product |
| CS_OFFL_SIR_FDM_1B_20200105T194523_20200105T194558_C001 | No Star Tracker file used in the processing of this product |
| CS_OFFL_SIR_FDM_1B_20200105T230113_20200105T230820_C001 | No Star Tracker file used in the processing of this product |

### 5.4 L1B FDM Calibration Usage Check

Each product is checked in order to ensure the necessary calibration files have been used in processing.

Number of products with errors: 0

### 5.5 L1B FDM 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

### 5.6 L1B FDM 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

### 5.7 L1B FDM 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.

Number of products with errors: 6

| Product                                                 | Test Failed                 | Description                         |
|---------------------------------------------------------|-----------------------------|-------------------------------------|
| CS_OFFL_SIR_FDM_1B_20200105T000008_20200105T000157_C001 | Attitude correction missing | The attitude has not been corrected |







