4.1: Processed ocean SAR data

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1. Processed Ocean SAR datasets

This document describes the processed ocean SAR data including the following products:

- OO_2_OCE Open Ocean
- CS_2_OCE Coastal Ocean
- PO_2_OCE Polar Ocean

The document change log (located at the beginning of the document) contains information regarding the data release. The individual data products are described in the section 2-0.

2. OO_2_OCE Open Ocean datasets

2.1. Description of the product

The OO_2_OCE Lotus product contains level-2 ocean geophysical parameters derived from Cryosat-2 SAR-mode data. This product also includes pseudo pulse-limited (PLRM) estimates derived from an incoherent processing of the same returning echoes, that aim at assessing the in-orbit performances of the SAR-mode data compared to well-known LRM-like data. Both retrievals are made at the same points along the ground tracks with thus identical time and location allowing for their direct comparison without the need to apply any environmental and geophysical corrections that may contribute to some potential differences and lead to unclear conclusions regarding the comparison between the different processing approaches. SAR-mode and PLRM processing for open ocean are described in [1].

Data are provided at two frequencies, 1 Hz and 20 Hz, and are sequentially split into NetCDF files, with one file per pass (one pass is a half-orbit, descending or ascending orbit). For each file, the datasets are organised in a standard structure that is close to the one used for Sentinel-3 products where 1 Hz and 20 Hz parameters are stored into separated variables. This way ensures ease of use for the user.

2.2. Dataset Areas

Three areas of interest have been selected for the prototype open ocean datasets: NE Atlantic, Bay of Singapore and Adriatic Sea.

Table 2-1: NE Atlantic open ocean dataset

Parameter	Value
Geographical Coverage	N.E. Atlantic 13W – 15E, 48N – 59N
Temporal Coverage	1st May 2012 – 30th April 2014

Table 2-2: Bay of Singapore open ocean dataset

Parameter	Value
Geographical Coverage	Bay of Singapore 98E – 121E, 4S – 25N
Temporal Coverage	1st May 2012 – 30th April 2014

Table 2-3: Adriatic Sea open ocean dataset

Parameter	Value
Geographical Coverage	Adriatic Sea 12E – 20E, 40N – 46N
Temporal Coverage	1st May 2012 – 30th April 2014

2.3.Product availability

Data is available in the following folders:

https://nas-ext.cls.fr:5001/fbsharing/tM1ATVZq

3. CS_2_OCE Coastal Sea datasets

3.1.Description of the product

This data product contains 20Hz Coastal Sea parameters over selected areas. The data is stored in a NetCDF file using Climate Forecast (CF) convention. Data has been processed according to the algorithm, which is described in [1].

3.2.Dataset Areas

Two areas have been selected for the prototype coastal area datasets: NE Atlantic and Adriatic Sea.

Table 3-1: NE Atlantic coastal ocean dataset

Parameter	Value
Geographical Coverage	N.E. Atlantic + North Sea 15W – 17E, 46N – 61N
Temporal Coverage	1st May 2012 – 30th April 2013

Table 3-2: Adriatic Sea coastal ocean dataset

Parameter	Value
Geographical Coverage	Adriatic Sea 10E – 22E, 38N – 48N
Temporal Coverage	1st May 2012 – 30th April 2013

3.3.Product availability

Data is available in the following folders:

https://nas-ext.cls.fr:5001/fbsharing/tM1ATVZq

4. PO_2_OCE Polar Ocean datasets

4.1.Description of the product

This data product contains 20Hz Polar Ocean parameters over selected areas. The data is stored in an ascii files with names corresponding to the original L1 data files delivered by ESA. Data has been processed according to the algorithm, which is described in [1] for the Polar Ocean.

4.2.Dataset Areas

Table 4-1: Svalbard polar ocean dataset

Parameter	Value
Geographical Coverage	Svalbard 0E – 40E, 75N – 85N
Temporal Coverage	2012

Table 4-2: Track polar ocean dataset

Parameter	Value
Geographical Coverage	Over North pole
Temporal Coverage	2011-2013

The picture below shows the two regions:

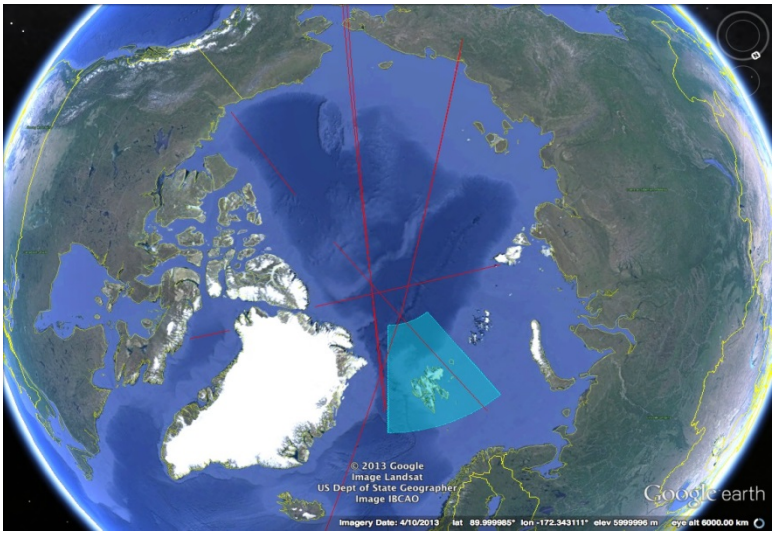

Figure 1: Polar Ocean datasets: Svalbard region, and along track region

4.3.Product Availability.

Data is available in the following folders:

https://nas-ext.cls.fr:5001/fbsharing/tM1ATVZq

5. Reference

[1] LOTUS Deliverable D1.3: SAR mode for Ocean Algorithms Theoretical Basis Document

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