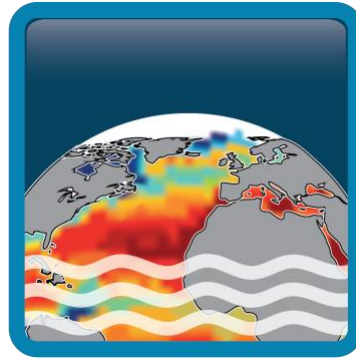


Climate Change Initiative+ (CCI+) Phase 1

Sea Surface Salinity



[D4.2] Climate Research Data Package (CRDP)

Customer: ESA

Ref.: ESA-CCI-PRGM-EOPS-SW-17-0032

Version: v2.0

Ref. internal: AO/1-9041/17/I-NB_v1.0


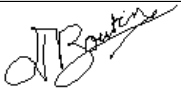

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Amendment Record Sheet

	Document Change Record		
Date / Issue	Description	Section / Page	
13/01/2021 / v1.0	Delivery to ESA	New document, describes v1.8 and v2.31 of the dataset	
19/02/2021 / v1.1	MS#4	Account for ESA comments	
15/09/2021 / v2.0	Phase 1 final CRDP	all	

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Climate Change Initiative+ (CCI+)
Phase 1

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1 Introduction

Within ESA's Climate Change Initiative (CCI+), the Sea Surface Salinity Essential Climate Variable (SSS-ECV) project has produced the phase 1 last version of the merged SSS time series for use in climate change studies.

This short Technical Note on the Climate Research Data Package (CRDP) of SSS briefly summarises all versions produced, and the products as delivered to the Users.



2 CRDP dataset

2.1 Production

The CCI+-SSS project has so far published one dataset per year of activities in the project i.e. during Year 1 (2018-2019), Year 2 (2019-2020) and Year 3 (2020-2021).

These datasets comprise the Sea Surface Salinity (SSS) Essential Climate Variable (ECV) dataset produced as part of the European Space Agency's (ESA) Climate Change Initiative (CCI+) programme in phase 1 (2018-2021).

Each salinity is provided with an estimate of its uncertainty (field `sss_random_error`). Information about the sum of the corrections applied to the individual SSS is also provided (field `sss_bias` is the mean effect of the applied correction, field `sss_bias_std` is the standard deviation of the systematic correction applied to individual measurements)

The ESA CCI Sea Surface Salinity ECV data have been produced at a spatial resolution of 50 km and spatially resampled on a 25km EASE (Equal Area Scalable Earth) grid and with a time resolution of a) 1 week and 1 day of time sampling; and b) 1 month and 15 days of time sampling. (see below for the Level-4 details)

The time-series utilises as much as possible data from several satellite missions that include ESA's SMOS, NASA's SMAP and Aquarius.

- Dataset version produced in Year 1 is 1.8. It is associated to the following doi:

<http://dx.doi.org/10.5285/9ef0ebf847564c2eabe62cac4899ec41>

It covers the temporal range from January 1st 2010 to November 16th 2018.

- Dataset version produced in Year 2 is 2.31 and is associated to the doi:

<http://dx.doi.org/10.5285/4ce685bff631459fb2a30faa699f3fc5>

It covers the temporal range from January 1st 2010 to December 31st 2019.

- Dataset version produced in Year 3 is 3.21 and is associated to the doi:

<http://dx.doi.org/10.5285/5920a2c77e3c45339477acd31ce62c3c>

It covers the temporal range from January 1st 2010 to September 29th 2020.

Each dataset v1.8, v2.31 and v3.21 consists of two Level-4 sets of products:

- A monthly mean product centered the 1st and 15th day of each month.
- A 7-day running mean at one-day time sampling



2.2 Data access

The dataset can be accessed via the ESA CCI website: <https://climate.esa.int/en/odp/#/project>.

Follow “Sea Surface Salinity” link and click on “FTP Download” which points to:

(ftp://anon-ftp.ceda.ac.uk/neodc/esacci/sea_surface_salinity/data)

The catalogue of the CEDA website also offers download links to the dataset:

- Year 1: <https://catalogue.ceda.ac.uk/uuid/9ef0ebf847564c2eabe62cac4899ec41>
- Year 2: <https://catalogue.ceda.ac.uk/uuid/eacb7580e1b54afeaabb0fd2b0a53828>
- Year 3: <https://catalogue.ceda.ac.uk/uuid/5920a2c77e3c45339477acd31ce62c3c>

2.3 Project documentation

More detailed information about the product content, algorithms, production means, and product structure is available in the project documentation that can be retrieved from the ESA-CCI project web pages (<https://climate.esa.int/en/projects/sea-surface-salinity/key-documents/>):

- Product User Guide (PUG) - SSS_cci-D4.3-PUG-v3.0
- Product Specification Document (PSD) - SSS_cci-D1.2-PSD-v2r0
- System Specification Document (SSD) - SSS_cci-D3.2-SSD-v3.0



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