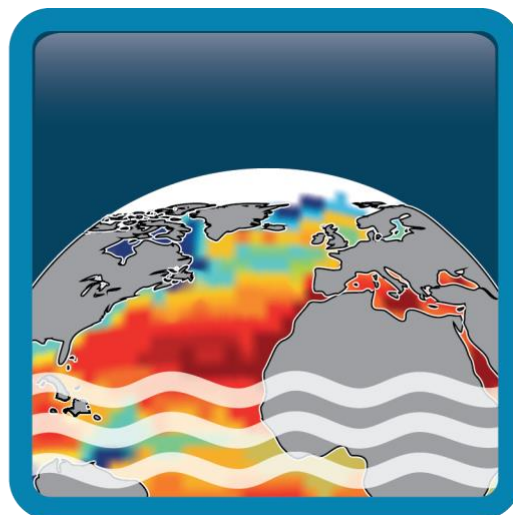


# Sea Surface Salinity Climate Change Initiative Phase 1 Data Access Requirement Document



## Data Access Requirement Document (DARD)

**Customer:** ESA

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

**Version:** v2.0

**Ref. internal:** ARG-003-039\_v1r4

**Revision Date:** 24/11/2021

**Filename:** SSS\_cci-D1.3-DARD-v1.0.docx





Sea Surface Salinity Climate Change Initiative  
Phase 1  
(ESA CCI Phase 3)  
Data Access Requirement Document

Ref: ESA-CCI-PRGM-EOPS-SW-17-0032  
Date: 24/11/2021  
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DOCUMENT CHANGE RECORD		
DATE / ISSUE	DESCRIPTION	SECTION / PAGE
14/01/19 v1r3	First release for ESA review	
23/04/19 v1r4	2 datasets added: SMOS L2 CATDS & WOA2018 following ESA review	4.3, 6.9
24/11/21 v1r5	Revised section 1.4 (mention to section 8 deleted)	
24/11/2021 v2.0	General update including formatting and version number	



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# 1 Introduction

## 1.1 Scope

This document identifies all the data that are needed as input to perform the SSS\_CCI project, including:

- all Level 1 products from ESA and Third Party Missions (no Level 0 products are required)
- all ancillary data
- all in situ observation data sources as well as higher-level products needed for product inter-comparison
- all historical archives and currently operational sources (it is not anticipated that data from sources due to become operational in the next 3 years will be required).

The SSS\_CCI project team is responsible for obtaining all input data for use within the SSS\_CCI project. All input data are available via FTP, SFTP or HTTP for external parties to obtain from source.



## 1.2 References

### 1.2.1 Applicable Documents

ID	DOCUMENT	REFERENCE
<b>AD01</b>	Discussion with other CCI projects	

### 1.2.2 Reference Documents

ID	DOCUMENT	REFERENCE
<b>RD01</b>	ESA (2002), Mission Objectives and Scientific Requirements for the Soil Moisture and Ocean salinity Mission, Version-5, available from <a href="http://esamultimedia.esa.int/docs/SMOS_MRD_V5.pdf">http://esamultimedia.esa.int/docs/SMOS_MRD_V5.pdf</a>	
<b>RD02</b>	Reul N. and B. Chapron (2001), SMOS - Salinity Data processing Study Improvements in Emissivity Models (WP 1100 Report), ESA contract N_ 15165/01/NL/SF	
<b>RD03</b>	Reul, N., and B. Chapron, 2003, A model of sea-foam thickness distribution for passive microwave remote sensing applications, <i>J. Geophys. Res.</i> , 108(C10), 3321, doi:10.1029/2003JC001887	
<b>RD04</b>	SMOS L2 OS Algorithm Theoretical Baseline Document, ARGANS tech doc, SO-TN-ARG-GS-0007, 25 January 2013 (available at <a href="http://www.argans.co.uk/smos/docs/deliverables/delivered/A_TBD/">http://www.argans.co.uk/smos/docs/deliverables/delivered/A_TBD/</a> )	
<b>RD05</b>	SMOS L2 OS Validation protocol, ARGANS tech notes, SO-TN-ARG-GS-0116, 17 Feb 2017 (available at <a href="https://smos.argans.co.uk/docs/technotes/SO-TN-ARG-GS-0116_Validation_Protocol_v1.0_20170217.pdf">https://smos.argans.co.uk/docs/technotes/SO-TN-ARG-GS-0116_Validation_Protocol_v1.0_20170217.pdf</a> )	
<b>RD06</b>	SMOS L2 OS OTTs for DPGS, ARGANS tech doc, SO-RP-ARG-GS-0070, 2012 (available at <a href="http://www.argans.co.uk/smos/docs/reports/">http://www.argans.co.uk/smos/docs/reports/</a> )	
<b>RD07</b>	Lagerloef, G., R. Colomb, D. Le Vine, F. Wentz, S. Yueh, C. Ruf, J. Lilly, J. Gunn, Y. Chao, A. Decharon, G. Feldman, and C. Swift (2008), The Aquarius/SAC-D mission, <i>Oceanography</i> , vol. 21, no. 1, pp. 68–81. <a href="https://doi.org/10.5670/oceanog.2008.68">doi:10.5670/oceanog.2008.68</a>	





ID	DOCUMENT	REFERENCE
RD08	Font, J., A. Camps, A. Borges, M. Martin-Neira, J. Boutin, N. Reul, Y. H. Kerr, A. Hahne, and S. Meckelenburg (2010), SMOS: The challenging sea surface salinity measurement from space, <i>Proc. IEEE</i> , vol. 98, no. 5, 49–665. <a href="https://doi.org/10.1109/JPROC.2009.2033096">doi:10.1109/JPROC.2009.2033096</a>	
RD09	Donlon, C. J., P. J. Minnett, C. Gentemann, T. J. Nightingale, I. J. Barton, B. Ward, and J. Murray (2002), Towards improved validation of satellite sea surface skin temperature measurements for climate research, <i>J. Climate</i> , 15, 353-369.	
RD10	Ho, D. T., C. J. Zappa, W. R. McGillis, L. F. Bliven, B. Ward, J. W. H. Dacey, P. Schlosser, and M. B. Hendricks, (2004), Influence of rain on air-sea gas exchange: Lessons from a model ocean. <i>J. Geophys. Res.</i> , 109, C08S18, <a href="https://doi.org/10.1029/2003JC001806">doi:10.1029/2003JC001806</a> .	
RD11	Paulson, C. A., and G. S. E. Lagerloef, (1993), Fresh surface lenses caused by heavy rain over the western pacific warm pool during TOGA COARE, in <i>EOS Trans. AGU</i> 74.	
RD12	Wijesekera, H. W., C. A. Paulson, and A. Huyer, (1999), The Effect of Rainfall on the Surface Layer during a Westerly Wind Burst in the Western Equatorial Pacific, <i>J. Phys. Oceanog.</i> , 29, 612- 632. <a href="https://doi.org/10.1175/1520-0485(1999)0290612:TEOROT&gt;2.0.CO;2">doi:10.1175/1520-0485(1999)0290612:TEOROT&gt;2.0.CO;2</a>	
RD13	Zine, S., J. Boutin, J. Font, N. Reul, P. Waldteufel, C. Gabarró, J. Tenerelli, F. Petitcolin, J. L. Vergely, M. Talone, and S. Delwart, (2008), Overview of the SMOS sea surface salinity prototype processor, <i>IEEE T. Geosci. Remote</i> , vol. 46, pp. 621-645. <a href="https://doi.org/10.1109/TGRS.2008.915543">doi:10.1109/TGRS.2008.915543</a>	
RD14	Swift, C. T. and R. E. McIntosh, (1983), Considerations for microwave remote sensing of ocean surface salinity, <i>IEEE T. Geosci. Remote</i> , vol. 21, pp. 480-491. <a href="https://doi.org/10.1109/TGRS.1983.350511">doi:10.1109/TGRS.1983.350511</a>	
RD15	Yueh, S. H., R. West, W. J. Wilson, F. K. Li, E. G. Njoku, and Y. Rahmat-Samii, (2001), Error sources and feasibility for microwave remote sensing of ocean surface salinity, <i>IEEE T. Geosci. Remote</i> , vol. 39, pp. 1049-1060. <a href="https://doi.org/10.1109/36.921423">doi:10.1109/36.921423</a>	
RD16	Araujo, M., C. Limongi, J. Servain, M. Silva, F. S. Leite, D. Veleda, and C. A. D. Lentini, (2011), Salinity-induced mixed and barrier layers in the southwestern tropical Atlantic Ocean off the northeast of Brazil, <i>Ocean Sci.</i> , 7, 63–73, 2011, <a href="http://www.ocean-sci.net/7/63/2011/">www.ocean-sci.net/7/63/2011/</a> , doi:10.5194/os-7-63-2011	



ID	DOCUMENT	REFERENCE
<b>RD17</b>	Terray, L., L. Corre, S. Cravatte, T. Delcroix, G. Reverdin, A. Ribes, (2012), Near-Surface Salinity as Nature’s Rain Gauge to Detect Human Influence on the Tropical Water Cycle. <i>J. Climate</i> , 25, 958–977, doi: <a href="http://dx.doi.org/10.1175/JCLI-D-10-05025">http://dx.doi.org/10.1175/JCLI-D-10-05025</a>	
<b>RD18</b>	Anderson, J. E., and S. C. Riser (2014), Near-surface variability of temperature and salinity in the near- tropical ocean: Observations from profiling floats, <i>Journal of Geophysical Research, Oceans</i> , 119 (11), 7433–7448, doi: <a href="https://doi.org/10.1002/2014JC010112">10.1002/2014JC010112</a> .	
<b>RD19</b>	Hormann, V., L. R. Centurioni, and G. Reverdin (2015), Evaluation of drifter salinities in the subtropical North Atlantic, <i>Journal of Atmospheric and Oceanographic Technology</i> , 32 (1), 185–192, doi: <a href="https://doi.org/10.1175/JTECH-D-14-00179.1">10.1175/JTECH-D-14-00179.1</a> .	
<b>RD20</b>	Reverdin, G., S. Morisset, J. Boutin, N. Martin, M. Sena-Martins, F. Gaillard, P. Blouch, J. Rolland, D. Stammer and J. Font (2014), Validation of salinity data from surface drifters, <i>Journal of Atmospheric and Oceanographic Technology</i> , 31 (4), 967–983, doi: <a href="https://doi.org/10.1175/JTECH-D-13-00158.1">10.1175/JTECH-D-13-00158.1</a>	
<b>RD21</b>	Zweng, M. M., Reagan, J. R., Antonov, J. I., Locarnini, R. A., Mishonov, A. V., Boyer, T. P., Garcia, H. E., Baranova, O. K., Johnson, D. R., Seidov, D., and Biddle, M. M. (2013). <i>World Ocean Atlas 2013, Volume 2: Salinity</i> . Levitus, Ed., A. Mishonov Technical Ed.; NOAA Atlas NESDIS 74, 39 pp. <a href="#">Download publication</a>	
<b>RD22</b>	Donlon, C. J., Martin, M., Stark, J., Roberts-Jones, J., Fiedler, E., & Wimmer, W. (2012). The operational sea surface temperature and sea ice analysis (ostia) system. <i>Remote Sens. Environ.</i> , 116(0), 140–158. doi: <a href="https://doi.org/10.1016/j.rse.2010.10.017">10.1016/j.rse.2010.10.017</a>	
<b>RD23</b>	Olmedo, E., Martínez, J., Umbert, M., Hoareau, N., Portabella, M., Ballabrera, J., Turiel, A. Improving time and space resolution of SMOS salinity maps using multifractal fusion. <i>Remote Sens. Environ.</i> , 2016, 180, 246-263. doi: <a href="https://doi.org/10.1016/j.rse.2016.02.038">10.1016/j.rse.2016.02.038</a>	
<b>RD24</b>	Olmedo, E.; Martínez, J.; Turiel, A.; Ballabrera-Poy, J. & Portabella, M. Debiased non-Bayesian retrieval: A novel approach to SMOS Sea Surface Salinity. <i>Remote Sens. Environ.</i> , 2017, 193, 103-126 , doi: <a href="https://doi.org/10.1016/j.rse.2017.02.023">10.1016/j.rse.2017.02.023</a>	
<b>RD25</b>	Bingham, F. M. & Lee, T., Space and time scales of sea surface salinity and freshwater forcing variability in the global ocean (60° S–60° N), <i>J. Geophys. Res.</i> , 2017, 122, 2909-2922, doi: <a href="https://doi.org/10.1002/2016JC012216">10.1002/2016JC012216</a>	



ID	DOCUMENT	REFERENCE
<b>RD26</b>	Lee, T. Consistency of Aquarius sea surface salinity with Argo products on various spatial and temporal scales. <i>Geophys. Res. Lett.</i> , 2016, 43, 3857-3864 , <a href="https://doi.org/10.1002/2016GL068822">doi:10.1002/2016GL068822</a>	
<b>RD27</b>	Yu, L.; Jin, X.; Josey, S. A.; Lee, T.; Kumar, A.; Wen, C. & Xue, Y. The global ocean water cycle in atmospheric reanalysis, satellite, and ocean salinity. <i>J. Clim.</i> , 2017, 30, 3829-3852 , <a href="https://doi.org/10.1175/JCLI-D-16-0479.1">doi:10.1175/JCLI-D-16-0479.1</a>	
<b>RD28</b>	Reul, N.; Tenerelli, J. & Guimbard, S. SMOS Level 3 & 4 Research products of the Centre d'Expertise Ifremer du CATDS - Algorithm Theoretical Background Document - IFREMER, 2015 <a href="#">Download publication</a>	
<b>RD29</b>	Reul, N. & Ifremer CATDS-CECOS Team, SMOS Level 4 Thematic SSS Research products - Product User Manual -, IFREMER, 2015, <a href="#">Download publication</a>	



## 1.3 Acronyms

AD	Applicable Document
ADP	Algorithm Development Plan
AOPC	Atmospheric Observation Panel for Climate
AR	Assessment Report (of the IPCC)
AR6	IPCC Scientific Assessment Report 6
ATBD	Algorithm Theoretical Basis Document
C3S	Copernicus Climate Change Service
CAR	Climate Assessment Report
CCI	The ESA Climate Change Initiative (CCI) is formally known as the Global Monitoring for Essential Climate Variables (GMECV) element of the European Earth Watch programme
CCI+	Climate Change Initiative Extension (CCI+), is an extension of the CCI over the period 2017–2024
CDR	Climate Data Record
CEOS	Committee on Earth Observation Satellites
CFOSAT	Chinese French Oceanography Satellite
CGMS	Coordination Group for Meteorological Satellites
CliC	World Climate Research Programme - Climate and Cryosphere Project
CLIVAR	WCRP Climate Variability and Predictability project
CMEMS	Copernicus Marine Environmental Monitoring Service
CMIP	Coupled Model Intercomparison Project
CMUG	Climate Modelling User Group
COP	Conference of the Parties
COWCLIP	Coordinated Ocean Wave Climate Project (of JCOMM)
CR	Cardinal Requirement
CRDP	Climate Research Data Package
CRG	Climate Research Group
CSCDA	Copernicus Space Component Data Access System
CSWG	Climate Science Working Group
DARD	Data Access Requirements Document
DEWG	Data Engineering Working Group
DOI	Digital Object Identifier
DPM	Detailed Processing Model
DTBT3	Database for Task 3
DUE	Data User Element



E3UB	End-to-End ECV Uncertainty Budget
EC	European Commission
ECMWF	European Centre for Medium Range Weather Forecasts
ECSAT	European Centre for Space Applications and Telecommunications
ECSS	European Cooperation for Space Standardization
ECV	Essential Climate Variable
EO	Earth Observation
EOV	Essential Ocean Variable (of the OOPC)
ESGF	Earth System Grid Federation
ESM	Earth System Model
EU	European Union
FCDR	Fundamental Climate Data Record
FIDUCEO	Fidelity and uncertainty in climate data records from Earth Observations
FP7	EU Framework Programme 7
FRM	Fiducial Reference Measurements
GAIA-CLIM	Gap Analysis for Integrated Atmospheric ECV CLimate Monitoring
GEO	Group on Earth Observations
GCOS	Global Climate Observing System
GCW	Global Cryosphere Watch
GMECV	Global Monitoring of Essential Climate Variables - element of the European Earth Watch programme.
GNSS	Global Navigation Satellite System
GOOS	Global Ocean Observing System
H2020	Horizon 2020 programme
Hs	Significant Wave Height (see also SWH)
H-SAF	EUMETSAT's Hydrology Satellite Applications Facility
HDD	Hard disk
IOC	Intergovernmental Oceanographic commission (of UNESCO)
IODD	Input Output Data Definition
IP	Implementation Plan
IPCC	Intergovernmental Panel on Climate Change
ISDB	in situ database (of Fiducial Reference Measurements and satellite measurements)
JAXA	Japan Aerospace Exploration Agency
JCOMM	Joint Commission on Oceanography and Marine Meteorology
KO	Kick-off
MOOC	Massive Open Online Course



NASA	National Aeronautics and Space Administration
NOAA	National Oceanic and Atmospheric Administration
NOP	Numerical Ocean Prediction
NWP	Numerical Weather Prediction
Obs4MIPs	Observations for Model Intercomparison Projects
ODP	Open Data Portal
OOPC	Ocean Observation Panel for Climate
PMP	Project Management Plan
PSD	Product Specification Document
PUG	Product User Guide
PVASR	Product Validation and Algorithm Selection Report
PVIR	Product Validation and Intercomparison Report
PVP	Product Validation Plan
QA4EO	Quality Assurance Framework for Earth Observation
QSR	Quarterly Status Report
R&D	Research and Development
RCP	Representative Concentration Pathways
RD	Reference Document
SAF	Satellite Applications Facility
SAR	Synthetic aperture Radar
SISS	Satellite and In situ [Working Group]
SLP	Sea Level Pressure
SMAP	Soil Moisture Active Passive [mission of NASA]
SMOS	Soil Moisture and Ocean Salinity [satellite of ESA]
SoW	Statement of Work
SRAL	SAR Radar Altimeter (of Sentinel-3)
SRD	System Requirements Document
SSD	System Specification Document
SSS	Sea Surface Salinity
SVR	System Verification Report
SWIM	Surface Waves Investigation and Monitoring (instrument of CFOSAT)
SWH	Significant Wave Height (see also Hs)
TOPC	Terrestrial Observation Panel for Climate
TR	Technical Requirement
UCR/CECR	Uncertainty Characterisation Report (formerly known as the Comprehensive Error Characterisation Report)
UNFCCC	United Nations Framework Convention on Climate Change



URD	User Requirements Document
USB	Universal Serial Bus
USGS	United States Geological Survey
VOS	Volunteer Observing ships
WCRP	World Climate Research Programme
WGClimate	Joint CEOS/CGMS Working Group on Climate
WMO	World Meteorological Programme
WWA	World Wave Atlas (of FUGRO)

## 1.4 Document Structure

After this introduction, the document is divided into a number of major sections that are briefly described below:

### Section 2 Definition of table fields

This section provides definitions of the table fields used throughout the rest of the document.

### Section 3 Summary of data sets required

This section lists all the data products required by the SSS\_CCI project. The information in this section identifies the product, its version number, the original source, the date the product is first required by the project, the sub-set of the record required, where the data can be obtained and the size of the data set.

### Section 4 Satellite data

This section provide further information about the data products listed in Section 3.1. For each data source the DARD includes:

- information about the original source of the data
- identification of the data type
- the sensor type and key technical characteristics
- information about data availability and coverage
- the product name and reference to product technical specification documents
- estimates of data quantity
- indication of data quality and reliability
- description of the ordering and delivery mechanism
- identification of access conditions and pricing
- details of any formal agreements with data suppliers for delivery of the data product to the project.
- any requirements for resolving issues concerning data access, calibration, validation and performance issues specific to the ground segment should they exist
- any potential algorithm upgrades that would enable the regeneration of improved input products for the SSS ECV.



**Section 5 In situ data**

This section provides further information about the data products listed in Section 3.2.

**Section 6 Inter-comparison data & model**

This section provides further information about the data products listed in Section 3.3.

**Section 7 Ancillary data**

This section provides further information about the data products listed in Section 3.4.





## 2 Definition of table fields

This section gives definitions of the table fields used in Sections 3, 4, 5, 6, and 7 of this document.

<b>Product name</b>	The name and, in the case of satellite data, the level of the data product described in the table.
<b>ID</b>	Explanation of term
<b>Data type</b>	Type of platform (satellite/in situ/model/analysis) and variable for which data is provided in product.
<b>Source</b>	The system or agency from which the data originates.
<b>Key Websites</b>	URLs of websites giving key information about the product
<b>Version</b>	Version of data that will be used within the project.
<b>Platform name</b>	The name of the platform to which the sensor is attached. For products originating from space instruments, this is the name of the satellite on which the instrument flies (not used for analysis products).
<b>Platform characteristics</b>	Key attributes of the platform (not used for analysis products).
<b>Sensor(s)</b>	The name of the instrument from which the data originates (not used for analysis products).
<b>Sensor type</b>	The type of sensor making the observations (applicable only for observational data).
<b>Sensor key technical characteristics</b>	Information concerning key sensor technical characteristics observations (applicable only for observational data).
<b>Analysis characteristics</b>	Analysis products: the observational data used in the analysis. Model: indication if product is model data.
<b>References to technical specifications documents</b>	References to external journal articles, reports and web pages that provide details of technical specifications of the instrument or data product specifications.
<b>Product format</b>	File format of data.
<b>Data gridding</b>	Details of the grid where applicable.
<b>Data coverage: temporal</b>	Year of the first available data and year of the last available data or to present if data production is on-going.
<b>Data coverage: spatial</b>	The locations for which data is available.

### Project Requirements

<b>Date required within project</b>	Date that the data will be first required by the project.
<b>Use within project</b>	The SSS_cci project can be considered to have three strands: (1) the production of a 'long-term' ECV using data from 2010 to 2020, (2) product validation of the long-term ECV (3) and inter-comparison of the ECV with other SST products as part of a climate assessment analysis. These strands are referred to in subsequent tables as (1) long-term ECV, (2) validation and (3) inter-comparison.
<b>Reason for selection</b>	The properties of the product that have led to its selection for use in the project.
<b>Temporal coverage required</b>	The period of data required.

### Data quality

<b>Data calibration</b>	References to external journal articles, reports and web pages describing calibration procedures and results.
<b>Data validation</b>	References to external journal articles, reports and web pages giving data validation procedures and results.



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<b>Product limitations</b>	Known access, calibration, validation and performance limitations.
<b>Potential product upgrades</b>	Details of any ongoing efforts that will provide upgrades to the product prior to generation of the ECV.
<b>Data availability</b>	
<b>Available from</b>	The distributor of the data product.
<b>Availability time-scale</b>	The time interval between data time and data availability.
<b>Estimates of data quantity</b>	An estimate of the computer storage capacity needed to store the required data.
<b>Product delivery</b>	A description of product ordering and delivery mechanisms
<b>Data reliability - space segment</b>	Space segment redundancy
<b>Data reliability - ground segment</b>	Ground segment redundancy
<b>Pricing</b>	Cost of the data.
<b>Access conditions</b>	Any conditions imposed by the data distributor and/or originator on the use of the data within this SSS_cci project.
<b>Formal agreements with data suppliers</b>	Details of any formal agreements that exist between the project and the data suppliers.
<b>Third party redistribution.</b>	Has permission for redistribution to third parties as part of the RRDP or CDRP been obtained?
<b>Miscellaneous</b>	
<b>Comments</b>	Other comments.



## 3 Summary of datasets required

The tables in this section summarize the requirements for data access. The table fields are defined in Section 2. Note: For explanation of asterisk, see the 'Present required within project' field description in Section 2.

### 3.1 Satellite data

ID	Product name	Available temporal coverage	Version	Present required within project	Use of data in project and temporal coverage required	Source	Available from	Estimate of data quantity
1.01	SMOS L1C	2010 to present	V620	Start of phase II	1) Long term ECV (Require all available data for 2010-present)	ESA	ESA	5.8 Tb/year
1.02	SMOS L2	2010 to 2021	V662, v700	Start of phase II	1) Long term ECV (Require all available data for 2010-present)	ESA	ESA	85 Gb/year
1.03	SMOS L2 CATDS	2010 to present	V3	Start of phase II	1) Long term ECV (Require all available data for 2010-present)	CATDS	CATDS	10 Gb/year
1.04	SMAP L1C	2015 to present	V4	Start of phase II	1) Long term ECV (Require all available data for 2015 to present)	NSIDC	NSIDC	63 Gb/year
1.05	SMAP L2C	2015 to present	V5	Start of phase II	1) Long term ECV (Require all available data for 2015 to present)	JPL	JPL	85 Gb/year
1.06	SMAP L2C (70km)	2015 to present	V4	Start of phase II	1) Long term ECV (Require all available data for 2015 to present)	RSS	RSS/JPL	210 Gb/year
1.07	Aquarius L1A	2011 to 2015	V5	Start of phase II	1) Long term ECV (Require all available data for 2011 to 2015)	NASA	JPL	27 Tb/year
1.08	Aquarius L2 CAP	2011 to 2015	V5	Start of phase II	1) Long term ECV (Require all available data for 2011 to 2015)	NASA	JPL	6.6 Gb/year
1.09	Aquarius L2 OR	2011 to 2015	V5	Start of phase II	1) Long term ECV (Require all available data for 2011 to 2015)	NASA	JPL	34 Gb/year
1.10	AMSR-E L2A	2002 to 2011	V3	Start of phase II	1) Long term ECV (Require all available data for 2002-2011)	NSIDC	NSIDC	912.5 Gb/year
1.11	AMSR2 L1R	2012 to present		Start of phase II	1) Long term ECV (Require all available data for 2012-present)	GCOM-W1	GCOM-W1	511 Gb/year
1.12	WindSat L1	2003 to present		Start of phase II	1) Long term ECV (Require all available data for 2012-present)	NRL	US Naval Research Lab	1 Tb/year
1.13	WindSat L2	2003 to present	V7.01	Start of phase II	1) Long term ECV (Require all available data for 2012-present)	RSS	RSS	
1.14	AMSR-E L2B	2002 to 2011	V7	Start of phase II	1) Long term ECV (Require all available data for 2002-2011)	RSS	RSS	1.6 Gb/year
1.15	AMSR2 L2	2012 to present		Start of phase II	1) Long term ECV (Require all available data for 2012-present)	GCOM-W1	GCOM-W1	



### 3.2 In situ data

ID	Product name	Available temporal coverage	Version	Present required within project	Use of data in project and temporal coverage required	Source	Available from	Estimate of data quantity
2.01	ARGO profiles	2000 to present	No version control	Start of phase II	(2) Product validation (Require all available data for 2010-2019)	Coriolis	Coriolis	7 Gb/year
2.02	TSG-GOSUD	2001 to present	v3	Start of phase II	(2) Product validation (Require all available data for 2010-2019)	GOSUD	Ifremer	1 Gb
2.03	TSG-LEGOS	2003 to present	No version control	Start of phase II	(2) Product validation (Require all available data for 2010-2019)	LEGOS	LEGOS	2.2 Gb
2.04	TSG-SAMOS	2007 to present	research	Start of phase II	(2) Product validation (Require all available data for 2010-2019)	SAMOS	SAMOS	3 Gb
2.05	Marine-Mammals	2004 to present	2018-04 released	Start of phase II	(2) Product validation (Require all available data for 2010-2019)	MEOP	SEANOE	4 Gb
2.06	Moorings	1979 to present	No version control	Start of phase II	(2) Product validation (Require all available data for 2010-2019)	PMEL	PMEL	2 Gb
2.07	Surface drifters	2005 to present	No version control	Start of phase II	(2) Product validation (Require all available data for 2010-2019)	LOCEAN	LOCEAN	150 Mb

### 3.3 Inter-comparison data & model

ID	Product name	Available temporal coverage	Version	Present required within project	Use of data in project and temporal coverage required	Source	Available from	Estimate of data quantity
3.01	JAMSTEC	2001 to present	No version control	Start of phase II	(3) Intercomparison (Require all available data for 2010-2019)	JAMSTEC	JAMSTEC	2.8 Gb
3.02	EN4.2.1	1900 to present	V4.2.1	Start of phase II	(3) Intercomparison (Require all available data for 2010-2019)	METOF	METOF	14 Gb
3.03	ISAS	2010 to present	V6.2	Start of phase II	(3) Intercomparison (Require all available data for 2010-2019)	CMEMS	CMEMS	185 Gb
3.04	ARGO IPRC	2004 to present	No version control	Start of phase II	(3) Intercomparison (Require all available data for 2010-2019)	IPRC	IPRC	4 Gb
3.05	Roemmich-Gilson Argo Climatology	2004 to present	No version control	Start of phase II	(3) Intercomparison (Require all available data for 2010-2019)	SCRIPPS	SCRIPPS	3.3 Gb
3.06	MULTIOBS_GLO_PHY_REP_015_002	1993 to 2017		Start of phase II	(3) Intercomparison (Require all available data for 2010-2019)	CMEMS	CMEMS	5,3 Gb
3.07	World Ocean Atlas 2009	1890 to 2008	No version control	Start of phase II	(3) Intercomparison (Require all available data for 2010-2019)	NOAA	NOAA	1.8 Gb



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3.08	World Ocean Atlas 2013	1890 to 2012	V2	Start of phase II	(3) Intercomparison (Require all available data for 2010-2019)	NOAA	NOAA	31.5 Gb
3.09	World Ocean Atlas 2018	1890 to 2017		Start of phase II	(3) Intercomparison (Require all available data for 2010-2019)	NOAA	NOAA	31.5 Gb
3.10	SMOS L3 CATDS-CPDC	2010 to present	V317	Start of phase II	(3) Intercomparison (Require all available data for 2010-2019)	CATDS	CATDS	3 Gb
3.11	SMOS L3 CATDS-CECOS-LOCEAN	2010 to present	V5	Start of phase II	(3) Intercomparison (Require all available data for 2010-2019)	CATDS	CATDS	2.2 Gb
3.12	SMOS L3 CATDS-CECOS-IFREMER	2010 to 2017	V2	Start of phase II	(3) Intercomparison (Require all available data for 2010-2019)	CATDS	CATDS	19 Gb
3.13	SMOS L3 BEC	2010 to present	V2	Start of phase II	(3) Intercomparison (Require all available data for 2010-2019)	BEC	BEC	5.7 Gb/year
3.14	SMAP L3 JPL	2015 to present	V5	Start of phase II	(3) Intercomparison (Require all available data for 2010-2019)	JPL	JPL	8 Gb/year
3.15	SMAP L3 RSS (70 km)	2015 to present	V4	Start of phase II	(3) Intercomparison (Require all available data for 2010-2019)	RSS	RSS/JPL	3.3 Gb/year
3.16	Aquarius L3 CAP	2011 to 2015	V5	Start of phase II	(3) Intercomparison (Require all available data for 2010-2019)	JPL	JPL	7.5 Gb
3.17	Aquarius L3 OR	2011 to 2015	V5	Start of phase II	(3) Intercomparison (Require all available data for 2010-2019)	NASA	NASA/JPL	7.9 Gb
3.18	SMOS L3 ICDC	2010 to present	V3	Start of phase II	(3) Intercomparison (Require all available data for 2010-2019)	ICDC	ICDC	401 Mb
3.19	SMOS L4 CATDS-CECOS-IFREMER	2010 to 2017	V2	Start of phase II	(3) Intercomparison (Require all available data for 2010-2019)	CATDS	CATDS	1.5 Gb
3.20	SMOS L4 BEC	2010 to 2019	V2	Start of phase II	(3) Intercomparison (Require all available data for 2010-2019)	BEC	BEC	76 Gb/year
3.21	Aquarius L4 OI IPRC	2011 to 2015	V5	Start of phase II	(3) Intercomparison (Require all available data for 2010-2019)	IPRC	IPRC	250 Mb
3.22	HYCOM	2012 to 2018	GLBu 0.08	Start of phase II	(3) Intercomparison (Require all available data for 2010-2019)	NRL	HYCOM	10 Gb/year
3.23	ECCO	2010 to 2015	V4r3	Start of phase II	(3) Intercomparison (Require all available data for 2010-2019)	ECCO consortium	ECCO consortium	12 Gb
3.24	MERCATOR	2010 to present	001_024	Start of phase II	(3) Intercomparison (Require all available data for 2010-2019)	CMEMS	CMEMS	6.1 Gb/year

### 3.4 Ancillary data

ID	Product name	Available temporal coverage	Version	Present required within project	Use of data in project and temporal coverage required	Source	Available from	Estimate of data quantity
4.01	ECMWF	2010 to present		Start of phase II				
4.02	NCEP	2010 to present		Start of phase II				



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4.03	L-band Sky map			Start of phase II				
4.04	Total Electronic content			Start of phase II				
4.05	ASCAT	From 2010-01-01 to present		Start of phase II		Ifremer	Ifremer	2.1 Gb/year
4.06	Altimeter waves	From 2010-01-01 to 2017-01		Start of phase II		Globwave	Globwave	1.1 Gb/year
4.07	SST AVHRR	2010 to present	v2	Start of phase II		NOAA	NOAA	636 Mb/year
4.08	SST OSTIA	2006 to present	v1	Start of phase II		CMEMS	CMEMS	5.5 Gb/year
4.09	SST CMC	2010 to present	v2	Start of phase II		JPL	JPL	1.5 Gb/year
4.10	SST RSS	2010 to present	v05	Start of phase II		RSS	RSS	1.7 Gb/year
4.11	CMORPH	2010 to present		Start of phase II		NOAA CPC	NOAA CPC	742 Mb/year
4.12	TRMM	2010 to present	v7	Start of phase II		GES DISC	GES DISC	2.8 Gb/year
4.13	IMERG	2014 to present	v06B	Start of phase II		EODIS	EODIS	156 Gb/year



## 4 Satellite data

This section contains more extensive information about the satellite data products that will be used for the ECV production and Algorithm selection. The information is displayed in the form of tables: one table for each product. Definitions of the table fields are given in Section 2.

### 4.1 SMOS L1C

<b>Product name</b>	SMOS L1C
<b>ID</b>	1.01
<b>Data type</b>	Satellite: multi-angular brightness temperatures in antenna frame (X-pol, Y-pol, T3 and T4) at the top of the atmosphere, geo-located in an equal-area grid system (ISEA 4H9 - Icosahedral Snyder Equal Area projection)
<b>Source</b>	ESA
<b>Key Websites</b>	<a href="https://earth.esa.int/web/guest/missions/esa-operational-eo-missions/smos/content/_asset_publisher/t5Py/content/how-to-obtain-data-7329">https://earth.esa.int/web/guest/missions/esa-operational-eo-missions/smos/content/_asset_publisher/t5Py/content/how-to-obtain-data-7329</a> <a href="https://smos-diss.eo.esa.int/oads/access/">https://smos-diss.eo.esa.int/oads/access/</a>
<b>Version</b>	620, v700
<b>Platform name</b>	SMOS
<b>Platform characteristics</b>	Sun-synchronous polar orbits with ascending equator crossings at 6am Revisit time: ~3 days
<b>Sensor(s)</b>	MIRAS (Microwave Imaging Radiometer using Aperture Synthesis)
<b>Sensor type</b>	Microwave interferometer
<b>Sensor key technical characteristics</b>	<ul style="list-style-type: none"> <li>• L-band (21 cm, 1.4 GHz)</li> <li>• Level 1 C multi-angular brightness temperatures</li> <li>• Full polarization</li> <li>• Spatial resolution 35 km at centre of field of view</li> <li>• Angular range 0-55 degrees</li> <li>• Radiometric sensitivity: 0.8 – 2.2 K</li> </ul>
<b>Analysis characteristics</b>	
<b>References to technical specifications documents</b>	
<b>Product format</b>	Earth Explorer format
<b>Data gridding</b>	
<b>Data coverage: temporal</b>	
<b>Data coverage: spatial</b>	
<b>Project Requirements</b>	
<b>Date required within project</b>	Start Phase II
<b>Use within project</b>	(1) Long term ECV
<b>Reason for selection</b>	
<b>Temporal coverage required</b>	All available data for 2010 to present
<b>Data quality</b>	
<b>Data calibration</b>	None
<b>Data validation</b>	N/A
<b>Product limitations</b>	Data is continuously reprocessed



Potential product upgrades	2019
<b>Data availability</b>	
Available from	DPGS
Availability time-scale	Near real time
Estimates of data quantity	5.8 Tb/year
Product delivery	<a href="https://earth.esa.int/web/guest/-/smos-science-data-products">https://earth.esa.int/web/guest/-/smos-science-data-products</a>
Data reliability - space segment	No redundancy
Data reliability - ground segment	No redundancy
Pricing	Free
Access conditions	User registration
Formal agreements with data suppliers	
Third party redistribution.	None
<b>Miscellaneous</b>	
Comments	None

## 4.2 SMOS L2

Product name	SMOS L2
ID	1.02
Data type	Satellite: sea surface salinity
Source	ESA
Key Websites	<a href="https://earth.esa.int/web/guest/missions/esa-operational-eo-missions/smos/content/-/asset_publisher/t5Py/content/how-to-obtain-data-7329">https://earth.esa.int/web/guest/missions/esa-operational-eo-missions/smos/content/-/asset_publisher/t5Py/content/how-to-obtain-data-7329</a> <a href="https://smos-diss.eo.esa.int/oads/access/">https://smos-diss.eo.esa.int/oads/access/</a>
Version	662
Platform name	SMOS
Platform characteristics	Sun-synchronous polar orbits with ascending equator crossings at 6am Revisit time: ~3 days
Sensor(s)	MIRAS (Microwave Imaging Radiometer using Aperture Synthesis)
Sensor type	Microwave interferometer
Sensor key technical characteristics	<ul style="list-style-type: none"> <li>• L-band (21 cm, 1.4 GHz)</li> <li>• Level 1 C multi-angular brightness temperatures</li> <li>• Full polarization</li> <li>• Spatial resolution 35 km at centre of field of view</li> <li>• Angular range 0-55 degrees</li> <li>• Radiometric sensitivity: 0.8 – 2.2 K</li> </ul>
Analysis characteristics	
References to technical specifications documents	<a href="https://earth.esa.int/documents/10174/1854503/SMOS_L2OSv622_release_note">https://earth.esa.int/documents/10174/1854503/SMOS_L2OSv622_release_note</a> <a href="https://earth.esa.int/documents/10174/1854519/SMOS_L2OS-ATBD">https://earth.esa.int/documents/10174/1854519/SMOS_L2OS-ATBD</a>
Product format	Earth Explorer format or NetCDF
Data gridding	~30 km (equal-area grid system ISEA 4H9)
Data coverage: temporal	2010 to present
Data coverage: spatial	Global
<b>Project Requirements</b>	
Date required within project	Start Phase II





Use within project	(1) Long term ECV
Reason for selection	
Temporal coverage required	All available data for 2010 to present
<b>Data quality</b>	
Data calibration	None
Data validation	N/A
Product limitations	None identified
Potential product upgrades	Yes (2019)
<b>Data availability</b>	
Available from	DPGS
Availability time-scale	Near real time
Estimates of data quantity	85 Gb/year
Product delivery	<a href="https://earth.esa.int/web/guest/-/smos-science-data-products">https://earth.esa.int/web/guest/-/smos-science-data-products</a>
Data reliability - space segment	No redundancy
Data reliability - ground segment	No redundancy
Pricing	Free
Access conditions	User registration
Formal agreements with data suppliers	
Third party redistribution.	None
<b>Miscellaneous</b>	
Comments	None

### 4.3 SMOS L2 CATDS-CPDC

Product name	SMOS L2 CATDS-CPDC
ID	1.03
Data type	Satellite SSS
Source	CATDS
Key Websites	<a href="http://www.catds.fr/Products/Available-products-from-CPDC/Catalogue/Catds-products-from-Sextant#/metadata/0f02fc28-cb86-4c44-89f3-ee7df6177e7b">http://www.catds.fr/Products/Available-products-from-CPDC/Catalogue/Catds-products-from-Sextant#/metadata/0f02fc28-cb86-4c44-89f3-ee7df6177e7b</a>
Version	V3
Platform name	SMOS
Platform characteristics	
Sensor(s)	MIRAS
Sensor type	
Sensor key technical characteristics	
Analysis characteristics	
References to technical specifications documents	
Product format	NetCDF archived files (tgz)
Data gridding	NSIDC EASE-Grid 2.0 Global
Data coverage: temporal	January 2010 to present



<b>Data coverage: spatial</b>	Global (90S – 90 N)
<b>Project Requirements</b>	
<b>Date required within project</b>	Start Phase II
<b>Use within project</b>	(1) Long term ECV
<b>Reason for selection</b>	
<b>Temporal coverage required</b>	2010-present
<b>Data quality</b>	
<b>Data calibration</b>	
<b>Data validation</b>	N/A
<b>Product limitations</b>	None identified
<b>Potential product upgrades</b>	None identified
<b>Data availability</b>	
<b>Available from</b>	CATDS
<b>Availability time-scale</b>	Near real time
<b>Estimates of data quantity</b>	
<b>Product delivery</b>	<a href="ftp://c1e96d:xov8ng28@eftp.ifremer.fr/OS/GRIDDED/L3OS/OPER/MIR_CSF2QA/">ftp://c1e96d:xov8ng28@eftp.ifremer.fr/OS/GRIDDED/L3OS/OPER/MIR_CSF2QA/</a> <a href="ftp://c1e96d:xov8ng28@eftp.ifremer.fr/OS/GRIDDED/L3OS/OPER/MIR_CSF2QD/">ftp://c1e96d:xov8ng28@eftp.ifremer.fr/OS/GRIDDED/L3OS/OPER/MIR_CSF2QD/</a> <a href="ftp://c1e96d:xov8ng28@eftp.ifremer.fr/OS/GRIDDED/L3OS/RE05/MIR_CSF2QA/">ftp://c1e96d:xov8ng28@eftp.ifremer.fr/OS/GRIDDED/L3OS/RE05/MIR_CSF2QA/</a> <a href="ftp://c1e96d:xov8ng28@eftp.ifremer.fr/OS/GRIDDED/L3OS/RE05/MIR_CSF2QD/">ftp://c1e96d:xov8ng28@eftp.ifremer.fr/OS/GRIDDED/L3OS/RE05/MIR_CSF2QD/</a>
<b>Data reliability - space segment</b>	N/A
<b>Data reliability - ground segment</b>	N/A
<b>Pricing</b>	Free
<b>Access conditions</b>	None
<b>Formal agreements with data suppliers</b>	None
<b>Third party redistribution.</b>	N/A
<b>Miscellaneous</b>	
<b>Comments</b>	None

## 4.4 SMAP L1C

<b>Product name</b>	SMAP L1C
<b>ID</b>	1.04
<b>Data type</b>	Satellite: brightness temperature at the top of the atmosphere
<b>Source</b>	NSIDC
<b>Key Websites</b>	<a href="https://nsidc.org/data/SPL1CTB">https://nsidc.org/data/SPL1CTB</a>
<b>Version</b>	V4
<b>Platform name</b>	Soil Moisture Active Passive
<b>Platform characteristics</b>	Sun-synchronous polar orbit with ascending equator crossings at 18:00 h Revisit time: ~8 days
<b>Sensor(s)</b>	SMAP L-band Radiometer
<b>Sensor type</b>	Microwave radiometer
<b>Sensor key technical characteristics</b>	<ul style="list-style-type: none"> <li>• L-band Microwave radiometer (1.4 GHz)</li> <li>• Polarization: H, V, 3rd and 4th Skokes</li> <li>• Incidence angle 40 degrees</li> <li>• 40 km spatial resolution</li> </ul>



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	<ul style="list-style-type: none"> <li>Relative accuracy: 1.3 K</li> </ul>
<b>Analysis characteristics</b>	
<b>References to technical specifications documents</b>	
<b>Product format</b>	HDF5
<b>Data gridding</b>	36 km Equal-Area Scalable Earth Grid, Version 2.0 (EASE-Grid 2.0) in three projections: global cylindrical, Northern Hemisphere azimuthal, and Southern Hemisphere azimuthal
<b>Data coverage: temporal</b>	31 March 2015 to present
<b>Data coverage: spatial</b>	Global
<b>Project Requirements</b>	
<b>Date required within project</b>	Start Phase II
<b>Use within project</b>	(1) Long term ECV
<b>Reason for selection</b>	Spatial coverage
<b>Temporal coverage required</b>	All available data for 2015 to present
<b>Data quality</b>	
<b>Data calibration</b>	None
<b>Data validation</b>	N/A
<b>Product limitations</b>	Does not fulfill the salinity accuracy requirements: galaxy, atmosphere, emissive antenna, cross-pol, wind roughness
<b>Potential product upgrades</b>	yes
<b>Data availability</b>	
<b>Available from</b>	NSIDC
<b>Availability time-scale</b>	Near real time
<b>Estimates of data quantity</b>	63 Gb/year
<b>Product delivery</b>	https
<b>Data reliability - space segment</b>	
<b>Data reliability - ground segment</b>	
<b>Pricing</b>	Free
<b>Access conditions</b>	User registration
<b>Formal agreements with data suppliers</b>	Chan, S. 2018. <i>SMAP L1C Radiometer Half-Orbit 36 km EASE-Grid Brightness Temperatures, Version 4</i> . [Indicate subset used]. Boulder, Colorado USA. NASA National Snow and Ice Data Center Distributed Active Archive Center. doi: <a href="https://doi.org/10.5067/ZVILG0PS6CTI">https://doi.org/10.5067/ZVILG0PS6CTI</a> .
<b>Third party redistribution.</b>	N/A
<b>Miscellaneous</b>	
<b>Comments</b>	This L1C product is a gridded version of the SMAP Level-1B radiometer brightness temperature product.

## 4.5 SMAP L2 JPL

<b>Product name</b>	SMAP L2B JPL
<b>ID</b>	1.05
<b>Data type</b>	Satellite: sea surface salinity



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<b>Source</b>	NASA
<b>Key Websites</b>	<a href="https://podaac.jpl.nasa.gov/dataset/SMAP_JPL_L2B_SSS_CAP_V5">https://podaac.jpl.nasa.gov/dataset/SMAP_JPL_L2B_SSS_CAP_V5</a>
<b>Version</b>	V5
<b>Platform name</b>	Soil Moisture Active Passive
<b>Platform characteristics</b>	Sun-synchronous polar orbit with ascending equator crossings at 18:00 h Revisit time: ~8 days
<b>Sensor(s)</b>	Radiometer
<b>Sensor type</b>	Microwave radiometer
<b>Sensor key technical characteristics</b>	<ul style="list-style-type: none"> <li>• L-band Microwave radiometer (1.4 GHz)</li> <li>• Polarization: H, V, 3rd and 4th Skokes</li> <li>• Incidence angle 40 degrees</li> <li>• 39x47 km spatial resolution</li> <li>• Relative accuracy: 1 K</li> </ul>
<b>Analysis characteristics</b>	
<b>References to technical specifications documents</b>	
<b>Product format</b>	NetCDF
<b>Data gridding</b>	0.25 x 0.25
<b>Data coverage: temporal</b>	April 2015 to present
<b>Data coverage: spatial</b>	Global
<b>Project Requirements</b>	
<b>Date required within project</b>	Start Phase II
<b>Use within project</b>	(1) Long term ECV
<b>Reason for selection</b>	Spatial coverage
<b>Temporal coverage required</b>	All available data for 2015 to present
<b>Data quality</b>	
<b>Data calibration</b>	
<b>Data validation</b>	N/A
<b>Product limitations</b>	Known calibration problems with version 4
<b>Potential product upgrades</b>	yes (2019)
<b>Data availability</b>	
<b>Available from</b>	JPL
<b>Availability time-scale</b>	Near real time (3 day delay)
<b>Estimates of data quantity</b>	210 Gb/year
<b>Product delivery</b>	<a href="ftp://podaac-ftp.jpl.nasa.gov/allData/smap/L2/JPL/V5">ftp://podaac-ftp.jpl.nasa.gov/allData/smap/L2/JPL/V5</a>
<b>Data reliability - space segment</b>	No redundancy
<b>Data reliability - ground segment</b>	No redundancy
<b>Pricing</b>	Free
<b>Access conditions</b>	User registration
<b>Formal agreements with data suppliers</b>	None
<b>Third party redistribution.</b>	None
<b>Miscellaneous</b>	
<b>Comments</b>	None



## 4.6 SMAP L2 RSS

<b>Product name</b>	SMAP L2B RSS
<b>ID</b>	1.06
<b>Data type</b>	Satellite: sea surface salinity
<b>Source</b>	RSS
<b>Key Websites</b>	<a href="http://www.remss.com/missions/smap/">http://www.remss.com/missions/smap/</a>
<b>Version</b>	V4
<b>Platform name</b>	Soil Moisture Active Passive
<b>Platform characteristics</b>	Sun-synchronous polar orbit with ascending equator crossings at 18:00 h Revisit time: ~8 days
<b>Sensor(s)</b>	Radiometer
<b>Sensor type</b>	Microwave radiometer
<b>Sensor key technical characteristics</b>	<ul style="list-style-type: none"> <li>• L-band Microwave radiometer (1.4 GHz)</li> <li>• Polarization: H, V, 3rd and 4th Stokes</li> <li>• Incidence angle 40 degrees</li> <li>• 39x47 km spatial resolution</li> <li>• Relative accuracy: 1.3 K</li> </ul>
<b>Analysis characteristics</b>	
<b>References to technical specifications documents</b>	
<b>Product format</b>	NetCDF
<b>Data gridding</b>	N/A
<b>Data coverage: temporal</b>	April 2015 to present
<b>Data coverage: spatial</b>	Global
<b>Project Requirements</b>	
<b>Date required within project</b>	Start Phase II
<b>Use within project</b>	(1) Long term ECV
<b>Reason for selection</b>	Spatial coverage
<b>Temporal coverage required</b>	All available data for 2015 to present
<b>Data quality</b>	
<b>Data calibration</b>	None
<b>Data validation</b>	N/A
<b>Product limitations</b>	None identified
<b>Potential product upgrades</b>	yes
<b>Data availability</b>	
<b>Available from</b>	RSS
<b>Availability time-scale</b>	Near real time (3 day delay)
<b>Estimates of data quantity</b>	210 Gb/year
<b>Product delivery</b>	<a href="ftp://ftp.remss.com/smap">ftp://ftp.remss.com/smap</a>
<b>Data reliability - space segment</b>	No redundancy
<b>Data reliability - ground segment</b>	No redundancy
<b>Pricing</b>	Free
<b>Access conditions</b>	User registration



Formal agreements with data suppliers	None
Third party redistribution.	JPL
<b>Miscellaneous</b>	
Comments	None

## 4.7 Aquarius L1A

Product name	Aquarius L1A
ID	1.07
Data type	Satellite: brightness temperature
Source	NASA
Key Websites	<a href="http://aquarius.nasa.gov/index.html">http://aquarius.nasa.gov/index.html</a>
Version	V5
Platform name	SAC-D
Platform characteristics	Sun-synchronous polar orbit with ascending equator crossings at 18:00 h Revisit time: ~7 days
Sensor(s)	Radiometer
Sensor type	Microwave radiometer
Sensor key technical characteristics	<ul style="list-style-type: none"> <li>L band radiometer (1.4 Ghz) and L band (1.26 GHz) Scatterometer</li> <li>polarimetric Radiometer (TH, TV, U (T+45°, T-45°))</li> <li>polarimetric (co-pol and cross-pol) Scatterometer</li> <li>three beams: inner beam 28.7 degrees, middle beam 37.8 degrees and outer beam 45.6 degrees</li> <li>Spatial resolution radiometer: 98 km (inner beam), 126 km (middle beam), 164.1 km (outer beam)</li> <li>Spatial resolution scatterometer: 74.3 km (inner beam), 94.9 km (middle beam), 127.6 km (outer beam)</li> <li>Radiometric sensitivity (noise): 0.06 K for the L band radiometer and between 0.04-0.1 dB for the Radar</li> </ul>
Analysis characteristics	
References to technical specifications documents	
Product format	HDF5 (bzip2)
Data gridding	N/A
Data coverage: temporal	June 2011 – Mai 2015
Data coverage: spatial	Global
<b>Project Requirements</b>	
Date required within project	Start Phase II
Use within project	(1) Long term ECV
Reason for selection	Accuracy
Temporal coverage required	All available data for 2011 to 2015
<b>Data quality</b>	
Data calibration	None
Data validation	N/A
Product limitations	None identified
Potential product upgrades	No



Data availability	
Available from	NASA GES DISC
Availability time-scale	N/A
Estimates of data quantity	25 Gb
Product delivery	ftp ( <a href="http://podaac.jpl.nasa.gov/AquariusDataAccess">http://podaac.jpl.nasa.gov/AquariusDataAccess</a> )
Data reliability - space segment	
Data reliability - ground segment	
Pricing	
Access conditions	
Formal agreements with data suppliers	
Third party redistribution.	
Miscellaneous	
Comments	

## 4.8 Aquarius L2 CAP

Product name	Aquarius L2 CAP
ID	1.08
Data type	Satellite: sea surface salinity
Source	NASA
Key Websites	<a href="http://aquarius.nasa.gov/index.html">http://aquarius.nasa.gov/index.html</a>
Version	V5
Platform name	SAC-D
Platform characteristics	Sun-synchronous polar orbit with ascending equator crossings at 18:00 h Revisit time: ~7 days
Sensor(s)	Radiometer
Sensor type	Microwave radiometer
Sensor key technical characteristics	<ul style="list-style-type: none"> <li>• L band radiometer (1.4 Ghz) and L band (1.26 GHz) Scatterometer</li> <li>• polarimetric Radiometer (TH, TV, U (T+45°, T-45°))</li> <li>• polarimetric (co-pol and cross-pol) Scatterometer</li> <li>• three beams: inner beam 28.7 degrees, middle beam 37.8 degrees and outer beam 45.6 degrees</li> <li>• Spatial resolution radiometer: 98 km (inner beam), 126 km (middle beam), 164.1 km (outer beam)</li> <li>• Spatial resolution scatterometer: 74.3 km (inner beam), 94.9 km (middle beam), 127.6 km (outer beam)</li> <li>• Radiometric sensitivity (noise): 0.06 K for the L band radiometer and between 0.04-0.1 dB for the Radar</li> </ul>
Analysis characteristics	
References to technical specifications documents	
Product format	HDF5 (bzip2)
Data gridding	N/A
Data coverage: temporal	June 2011 – Mai 2015
Data coverage: spatial	Global



Project Requirements	
Date required within project	Start Phase II
Use within project	(1) Long term ECV
Reason for selection	Accuracy
Temporal coverage required	All available data for 2011 to 2015
Data quality	
Data calibration	None
Data validation	N/A
Product limitations	None identified
Potential product upgrades	No
Data availability	
Available from	NASA GES DISC
Availability time-scale	N/A
Estimates of data quantity	25 Gb
Product delivery	ftp://podaac-ftp.jpl.nasa.gov/allData/aquarius/L2/CAPv5/
Data reliability - space segment	
Data reliability - ground segment	
Pricing	
Access conditions	
Formal agreements with data suppliers	
Third party redistribution.	
Miscellaneous	
Comments	None

## 4.9 Aquarius L2 OR

Product name	Aquarius L2 OR
ID	1.09
Data type	Satellite: sea surface salinity
Source	NASA
Key Websites	<a href="http://aquarius.nasa.gov/index.html">http://aquarius.nasa.gov/index.html</a>
Version	V5
Platform name	SAC-D
Platform characteristics	Sun-synchronous polar orbit with ascending equator crossings at 18:00 h Revisit time: ~7 days
Sensor(s)	Radiometer
Sensor type	Microwave radiometer
Sensor key technical characteristics	<ul style="list-style-type: none"> <li>L band radiometer (1.4 Ghz) and L band (1.26 GHz) Scatterometer</li> <li>polarimetric Radiometer (TH, TV, U (T+45°, T-45°))</li> <li>polarimetric (co-pol and cross-pol) Scatterometer</li> <li>three beams: inner beam 28.7 degrees, middle beam 37.8 degrees and outer beam 45.6 degrees</li> </ul>





	<ul style="list-style-type: none"> <li>Spatial resolution radiometer: 98 km (inner beam), 126 km (middle beam), 164.1 km (outer beam)</li> <li>Spatial resolution scatterometer: 74.3 km (inner beam), 94.9 km (middle beam), 127.6 km (outer beam)</li> </ul> Radiometric sensitivity (noise): 0.06 K for the L band radiometer and between 0.04-0.1 dB for the Radar
Analysis characteristics	
References to technical specifications documents	
Product format	HDF5 (bzip2)
Data gridding	N/A
Data coverage: temporal	June 2011 – Mai 2015
Data coverage: spatial	Global
<b>Project Requirements</b>	
Date required within project	Start Phase II
Use within project	(1) Long term ECV
Reason for selection	Accuracy
Temporal coverage required	All available data for 2011 to 2015
<b>Data quality</b>	
Data calibration	None
Data validation	N/A
Product limitations	None identified
Potential product upgrades	None identified
<b>Data availability</b>	
Available from	NASA ESDIS
Availability time-scale	N/A
Estimates of data quantity	120 Gb
Product delivery	<a href="ftp://podaac-ftp.jpl.nasa.gov/allData/aquarius/L2/V5/SCI/">ftp://podaac-ftp.jpl.nasa.gov/allData/aquarius/L2/V5/SCI/</a>
Data reliability - space segment	
Data reliability - ground segment	
Pricing	Free
Access conditions	
Formal agreements with data suppliers	
Third party redistribution.	None
<b>Miscellaneous</b>	
Comments	None

## 4.10 AMSR-E L2A

Product name	AMSR-E L2A
ID	1.10
Data type	Satellite brightness temperatures
Source	NSIDC



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<b>Key Websites</b>	<a href="https://nsidc.org/data/AE_L2A">https://nsidc.org/data/AE_L2A</a>
<b>Version</b>	V3
<b>Platform name</b>	Aqua Satellite
<b>Platform characteristics</b>	Sun-synchronous polar orbit with ascending equator crossings at 13:30 h
<b>Sensor(s)</b>	Advanced Microwave Scanning Radiometer
<b>Sensor type</b>	Microwave Radiometer
<b>Sensor key technical characteristics</b>	<ul style="list-style-type: none"> <li>• Multi frequency Scanning radiometer</li> <li>• 6.9, 10.7, 18.7, 23.8, 36.5 and 89 GHz in both horizontal and vertical polarization.</li> <li>• Inc. angle: ~55 degrees</li> <li>• Spatial sampling: 10x10 km</li> <li>• Spatial resolution: 75x43 km (6.9 GHz), 51x29 km (10.7 GHz), 26x16 km (18.7 and 23.8 GHz), 14x8 (36.5 GHz), 6x4 km (89 GHz)</li> </ul>
<b>Analysis characteristics</b>	
<b>References to technical specifications documents</b>	Ashcroft, P. and F. J. Wentz. 2013. <i>AMSR-E/Aqua L2A Global Swath Spatially-Resampled Brightness Temperatures, Version 3</i> . [Indicate subset used]. Boulder, Colorado USA. NASA National Snow and Ice Data Center Distributed Active Archive Center. doi: <a href="https://doi.org/10.5067/AMSR-E/AE_L2A.003">https://doi.org/10.5067/AMSR-E/AE_L2A.003</a> .
<b>Product format</b>	HDF-EOS
<b>Data gridding</b>	Varies x varies
<b>Data coverage: temporal</b>	June 2002 – October 2011
<b>Data coverage: spatial</b>	Global
<b>Project Requirements</b>	
<b>Date required within project</b>	Start Phase II
<b>Use within project</b>	(1) Long term ECV
<b>Reason for selection</b>	Temporal coverage
<b>Temporal coverage required</b>	All available data for 2002 to 2011
<b>Data quality</b>	
<b>Data calibration</b>	None
<b>Data validation</b>	N/A
<b>Product limitations</b>	None identified
<b>Potential product upgrades</b>	None identified
<b>Data availability</b>	
<b>Available from</b>	NSIDC
<b>Availability time-scale</b>	N/A
<b>Estimates of data quantity</b>	10 Tb
<b>Product delivery</b>	http
<b>Data reliability - space segment</b>	
<b>Data reliability - ground segment</b>	
<b>Pricing</b>	Free
<b>Access conditions</b>	User registration
<b>Formal agreements with data suppliers</b>	None
<b>Third party redistribution.</b>	
<b>Miscellaneous</b>	
<b>Comments</b>	



## 4.11 AMSR-2 L1R

<b>Product name</b>	AMSR-2 L1R
<b>ID</b>	1.11
<b>Data type</b>	Satellite brightness temperatures
<b>Source</b>	JAXA
<b>Key Websites</b>	<a href="https://gportal.jaxa.jp/">https://gportal.jaxa.jp/</a>
<b>Version</b>	V2
<b>Platform name</b>	GCOM W1
<b>Platform characteristics</b>	Sun-synchronous polar orbit with ascending equator crossings at 13:30 h
<b>Sensor(s)</b>	Advance Microwave Scanning Radiometer (AMSR2)
<b>Sensor type</b>	Microwave radiometer
<b>Sensor key technical characteristics</b>	<ul style="list-style-type: none"> <li>• Multi frequency Scanning radiometer</li> <li>• 6.93, 7.3, 10.65, 18.7, 23.8, 36.5 and 89 GHz in both horizontal and vertical polarization.</li> <li>• Inc. angle: ~55 degrees</li> <li>• Spatial sampling interval: 10 km</li> <li>• Spatial resolution: 62x35 km (6.93 GHz), 62x35 km (7.3 GHz), 42x24 km (10.65 GHz), 22x14 km (18.7 GHz), 19x11 km (23.8 GHz), 12x7 (36.5 GHz), 5x3 km (89 GHz)</li> </ul>
<b>Analysis characteristics</b>	
<b>References to technical specifications documents</b>	
<b>Product format</b>	HDF5
<b>Data gridding</b>	
<b>Data coverage: temporal</b>	2012 to present
<b>Data coverage: spatial</b>	Global
<b>Project Requirements</b>	
<b>Date required within project</b>	
<b>Use within project</b>	
<b>Reason for selection</b>	
<b>Temporal coverage required</b>	
<b>Data quality</b>	
<b>Data calibration</b>	None
<b>Data validation</b>	N/A
<b>Product limitations</b>	None identified
<b>Potential product upgrades</b>	None identified
<b>Data availability</b>	
<b>Available from</b>	JAXA
<b>Availability time-scale</b>	Real time
<b>Estimates of data quantity</b>	520 Gb/year
<b>Product delivery</b>	<a href="https://gportal.jaxa.jp/">https://gportal.jaxa.jp/</a>
<b>Data reliability - space segment</b>	
<b>Data reliability - ground segment</b>	



<b>Pricing</b>	Free
<b>Access conditions</b>	User registration
<b>Formal agreements with data suppliers</b>	
<b>Third party redistribution.</b>	
<b>Miscellaneous</b>	
<b>Comments</b>	

## 4.12 WindSat L1

<b>Product name</b>	WindSat L1
<b>ID</b>	1.12
<b>Data type</b>	Satellite brightness temperature
<b>Source</b>	NRL
<b>Key Websites</b>	
<b>Version</b>	
<b>Platform name</b>	Coriolis Satellite
<b>Platform characteristics</b>	Sun-synchronous polar orbit with ascending equator crossings at 18:00 h
<b>Sensor(s)</b>	WindSat radiometer
<b>Sensor type</b>	Microwave radiometer
<b>Sensor key technical characteristics</b>	<ul style="list-style-type: none"> <li>• Multi frequency Scanning Radiometer</li> <li>• 6.8, 10.7, 18.7, 23.8, and 37 GHz in both horizontal and vertical polarization</li> <li>• Swath: 1025 km</li> <li>• Inc. angle varies: 53.5 degrees for 6.8 GHz, 49.9 degrees for 10.7 GHz, 55.3 degrees for 18.7 GHz and 53.0 degrees for 23.8 and 37.0 GHz</li> <li>• Spatial resolution: 60x40 km (6.9 GHz), 25x38 km (10.7 GHz), 26x16 km (18.7 and 23.8 GHz), 8x13 km (37 GHz)</li> </ul>
<b>Analysis characteristics</b>	
<b>References to technical specifications documents</b>	
<b>Product format</b>	
<b>Data gridding</b>	25x35 km
<b>Data coverage: temporal</b>	2003 – present
<b>Data coverage: spatial</b>	Global
<b>Project Requirements</b>	
<b>Date required within project</b>	
<b>Use within project</b>	
<b>Reason for selection</b>	
<b>Temporal coverage required</b>	
<b>Data quality</b>	
<b>Data calibration</b>	None
<b>Data validation</b>	N/A
<b>Product limitations</b>	None identified
<b>Potential product upgrades</b>	None identified



<b>Data availability</b>	
Available from	NRL
Availability time-scale	On demand
Estimates of data quantity	1 Tb/year
Product delivery	Ordering via Naval Research laboratory
Data reliability - space segment	
Data reliability - ground segment	
Pricing	Free
Access conditions	only available on an hard disk
Formal agreements with data suppliers	
Third party redistribution.	
<b>Miscellaneous</b>	
Comments	None

## 4.13 WindSat L2

Product name	WindSat L2
ID	1.13
Data type	Satellite brightness temperature
Source	RSS
Key Websites	
Version	
Platform name	
Platform characteristics	
Sensor(s)	
Sensor type	
Sensor key technical characteristics	
Analysis characteristics	
References to technical specifications documents	
Product format	
Data gridding	
Data coverage: temporal	2003 – present
Data coverage: spatial	Global
<b>Project Requirements</b>	
Date required within project	
Use within project	
Reason for selection	
Temporal coverage required	
<b>Data quality</b>	



Data calibration	None
Data validation	N/A
Product limitations	None identified
Potential product upgrades	None identified
<b>Data availability</b>	
Available from	
Availability time-scale	
Estimates of data quantity	
Product delivery	
Data reliability - space segment	
Data reliability - ground segment	
Pricing	
Access conditions	
Formal agreements with data suppliers	
Third party redistribution.	
<b>Miscellaneous</b>	
Comments	

## 4.14 AMSR-E L2B

Product name	AMSR-E L2B
ID	1.14
Data type	Satellite
Source	
Key Websites	
Version	V7
Platform name	
Platform characteristics	
Sensor(s)	
Sensor type	
Sensor key technical characteristics	
Analysis characteristics	
References to technical specifications documents	
Product format	
Data gridding	
Data coverage: temporal	
Data coverage: spatial	
<b>Project Requirements</b>	
Date required within project	



Use within project	
Reason for selection	
Temporal coverage required	
<b>Data quality</b>	
Data calibration	
Data validation	
Product limitations	
Potential product upgrades	
<b>Data availability</b>	
Available from	
Availability time-scale	
Estimates of data quantity	1.6 Gb/year
Product delivery	
Data reliability - space segment	
Data reliability - ground segment	
Pricing	
Access conditions	
Formal agreements with data suppliers	
Third party redistribution.	
<b>Miscellaneous</b>	
Comments	

## 4.15 AMSR-2 L2

Product name	AMSR-2 L2
ID	1.15
Data type	
Source	
Key Websites	
Version	
Platform name	
Platform characteristics	
Sensor(s)	
Sensor type	
Sensor key technical characteristics	
Analysis characteristics	
References to technical specifications documents	
Product format	
Data gridding	



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Data coverage: temporal	
Data coverage: spatial	
<b>Project Requirements</b>	
Date required within project	
Use within project	
Reason for selection	
Temporal coverage required	
<b>Data quality</b>	
Data calibration	
Data validation	
Product limitations	
Potential product upgrades	
<b>Data availability</b>	
Available from	
Availability time-scale	
Estimates of data quantity	
Product delivery	
Data reliability - space segment	
Data reliability - ground segment	
Pricing	
Access conditions	
Formal agreements with data suppliers	
Third party redistribution.	
<b>Miscellaneous</b>	
Comments	





## 5 In situ data

This section contains more extensive information about the in situ data products that will be used in the SSS\_CCI project. The information is displayed in the form of tables: one table for each product. Definitions of the table fields are given in Section 2.

### 5.1 ARGO profiles (Coriolis)

<b>Product name</b>	Argo profiles
<b>ID</b>	2.01
<b>Data type</b>	In situ sea surface salinity
<b>Source</b>	Coriolis
<b>Key Websites</b>	<a href="http://www.coriolis.eu.org/Observing-the-Ocean/ARGO">http://www.coriolis.eu.org/Observing-the-Ocean/ARGO</a>
<b>Version</b>	
<b>Platform name</b>	PROVOR, APEX, and SOLO floats
<b>Platform characteristics</b>	Free-drifting profiling floats (over 3000 in number)
<b>Sensor(s)</b>	Sea-Bird Electronics 41/41CP CTD Module for Autonomous Profiling Floats, Citadel CTD
<b>Sensor type</b>	CTD sensor
<b>Sensor key technical characteristics</b>	
<b>Analysis characteristics</b>	
<b>References to technical specifications documents</b>	
<b>Product format</b>	NetCDF
<b>Data gridding</b>	N/A
<b>Data coverage: temporal</b>	2000 to present
<b>Data coverage: spatial</b>	Global
<b>Project Requirements</b>	
<b>Date required within project</b>	
<b>Use within project</b>	(2) Product validation
<b>Reason for selection</b>	
<b>Temporal coverage required</b>	All available data from 2010 to present
<b>Data quality</b>	
<b>Data calibration</b>	None
<b>Data validation</b>	N/A
<b>Product limitations</b>	None identified
<b>Potential product upgrades</b>	None identified
<b>Data availability</b>	
<b>Available from</b>	Coriolis
<b>Availability time-scale</b>	Real time
<b>Estimates of data quantity</b>	63 Gb
<b>Product delivery</b>	<a href="ftp://ftp.ifremer.fr/ifremer/argo/geo/">ftp://ftp.ifremer.fr/ifremer/argo/geo/</a>
<b>Data reliability - space segment</b>	N/A



Data reliability - ground segment	N/A
Pricing	Free
Access conditions	None
Formal agreements with data suppliers	
Third party redistribution.	N/A
<b>Miscellaneous</b>	
Comments	

## 5.2 Thermo-Salino Graph data (GOSUD)

Product name	TSG-GOSUD
ID	2.02
Data type	In situ SSS <sub>depth</sub> measurements
Source	GOSUD
Key Websites	<a href="http://www.gosud.org/">http://www.gosud.org/</a>
Version	V3
Platform name	
Platform characteristics	
Sensor(s)	
Sensor type	
Sensor key technical characteristics	
Analysis characteristics	
References to technical specifications documents	
Product format	NetCDF
Data gridding	N/A
Data coverage: temporal	2001 to present
Data coverage: spatial	Global
<b>Project Requirements</b>	
Date required within project	
Use within project	(2) Product validation
Reason for selection	
Temporal coverage required	All available data from 2010 to present
<b>Data quality</b>	
Data calibration	None
Data validation	N/A
Product limitations	None identified
Potential product upgrades	None identified
<b>Data availability</b>	
Available from	GOSUD
Availability time-scale	Delayed mode (yearly update)



Estimates of data quantity	1 Gb
Product delivery	<a href="ftp://ftp.ifremer.fr/ifremer/gosudv3/delayed_mode/dm_data_french_research_vessels-release_2016/">ftp://ftp.ifremer.fr/ifremer/gosudv3/delayed_mode/dm_data_french_research_vessels-release_2016/</a>
Data reliability - space segment	N/A
Data reliability - ground segment	N/A
Pricing	Free
Access conditions	None
Formal agreements with data suppliers	
Third party redistribution.	N/A
<b>Miscellaneous</b>	
Comments	

### 5.3 Thermo-Salino Graph data (LEGOS)

Product name	TSG-LEGOS
ID	2.03
Data type	In situ SSS <sub>depth</sub> measurements
Source	LEGOS
Key Websites	
Version	
Platform name	
Platform characteristics	
Sensor(s)	
Sensor type	
Sensor key technical characteristics	
Analysis characteristics	
References to technical specifications documents	
Product format	NetCDF
Data gridding	N/A
Data coverage: temporal	2003 to present
Data coverage: spatial	Global
<b>Project Requirements</b>	
Date required within project	
Use within project	(2) Product validation
Reason for selection	
Temporal coverage required	All available data from 2010 to present
<b>Data quality</b>	
Data calibration	None
Data validation	N/A
Product limitations	None identified
Potential product upgrades	None identified



Data availability	
Available from	LEGOS
Availability time-scale	Delayed mode
Estimates of data quantity	2.2 Gb
Product delivery	<a href="ftp://ftp.legos.obs-mip.fr/pub/soa/salinite/sss_delayed_mode/dm_data_2003-ongoing/">ftp://ftp.legos.obs-mip.fr/pub/soa/salinite/sss_delayed_mode/dm_data_2003-ongoing/</a>
Data reliability - space segment	N/A
Data reliability - ground segment	N/A
Pricing	Free
Access conditions	None
Formal agreements with data suppliers	None
Third party redistribution.	N/A
Miscellaneous	
Comments	

## 5.4 Thermo-Salino Graph data (SAMOS)

Product name	TSG-SAMOS
ID	2.04
Data type	In situ sea surface salinity
Source	SAMOS
Key Websites	<a href="http://samos.coaps.fsu.edu/html/">http://samos.coaps.fsu.edu/html/</a>
Version	research
Platform name	
Platform characteristics	
Sensor(s)	
Sensor type	
Sensor key technical characteristics	
Analysis characteristics	
References to technical specifications documents	
Product format	NetCDF
Data gridding	N/A
Data coverage: temporal	2007 to present
Data coverage: spatial	Global
Project Requirements	
Date required within project	
Use within project	(2) Product validation
Reason for selection	
Temporal coverage required	All available data from 2010 to present
Data quality	
Data calibration	None



Data validation	N/A
Product limitations	None identified
Potential product upgrades	None identified
<b>Data availability</b>	
Available from	SAMOS
Availability time-scale	Near real time
Estimates of data quantity	3 Gb
Product delivery	ftp://ftp.coaps.fsu.edu/samos_pub/data/research
Data reliability - space segment	N/A
Data reliability - ground segment	N/A
Pricing	Free
Access conditions	None
Formal agreements with data suppliers	N/A
Third party redistribution.	N/A
<b>Miscellaneous</b>	
Comments	

## 5.5 Marine Mammals data (MEOP)

Product name	Mammal
ID	2.05
Data type	In situ sea surface salinity
Source	MEOP
Key Websites	<a href="http://www.meop.net/">http://www.meop.net/</a>
Version	2018-04 release
Platform name	
Platform characteristics	
Sensor(s)	
Sensor type	
Sensor key technical characteristics	
Analysis characteristics	
References to technical specifications documents	
Product format	NetCDF
Data gridding	N/A
Data coverage: temporal	2004 to present
Data coverage: spatial	Global
<b>Project Requirements</b>	
Date required within project	
Use within project	(2) Product validation
Reason for selection	



<b>Temporal coverage required</b>	All available data from 2010 to present
<b>Data quality</b>	
<b>Data calibration</b>	None
<b>Data validation</b>	N/A
<b>Product limitations</b>	None identified
<b>Potential product upgrades</b>	None identified
<b>Data availability</b>	
<b>Available from</b>	SEANOE
<b>Availability time-scale</b>	Yearly update
<b>Estimates of data quantity</b>	4 Gb
<b>Product delivery</b>	<a href="https://www.seanoe.org/data/00343/45461/">https://www.seanoe.org/data/00343/45461/</a>
<b>Data reliability - space segment</b>	N/A
<b>Data reliability - ground segment</b>	N/A
<b>Pricing</b>	Free
<b>Access conditions</b>	None
<b>Formal agreements with data suppliers</b>	None
<b>Third party redistribution.</b>	N/A
<b>Miscellaneous</b>	
<b>Comments</b>	None

## 5.6 Moorings (TAO, RAMA, PIRATA)

<b>Product name</b>	GT MBA
<b>ID</b>	2.06
<b>Data type</b>	In situ SSS measurements
<b>Source</b>	TAO Project Office
<b>Key Websites</b>	Laboratory, P. M. E., Global Tropical Moored Buoy Array <a href="http://www.pmel.noaa.gov/tao/global/global.html">http://www.pmel.noaa.gov/tao/global/global.html</a>
<b>Version</b>	None
<b>Platform name</b>	The major components of the GT MBA are the TAO/TRITON, PIRATA and RAMA arrays.
<b>Platform characteristics</b>	Moored buoys
<b>Sensor(s)</b>	Various
<b>Sensor type</b>	Various
<b>Sensor key technical characteristics</b>	
<b>Analysis characteristics</b>	
<b>References to technical specifications documents</b>	
<b>Product format</b>	NetCDF
<b>Data gridding</b>	N/A
<b>Data coverage: temporal</b>	1979 to present
<b>Data coverage: spatial</b>	Tropical Pacific, Tropical Atlantic and Tropical Indian Oceans



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Project Requirements	
Date required within project	
Use within project	(2) Product validation
Reason for selection	Relatively long-term, actively maintained in situ data set
Temporal coverage required	All available data from 2010 to present
Data quality	
Data calibration	None
Data validation	N/A
Product limitations	None identified
Potential product upgrades	None identified
Data availability	
Available from	PMEL
Availability time-scale	Real-time
Estimates of data quantity	5 GB
Product delivery	HTTP
Data reliability - space segment	N/A
Data reliability - ground segment	N/A
Pricing	Free
Access conditions	If you use these data in publications, please acknowledge the TAO Project Office of NOAA/PMEL. Also, we would appreciate receiving a preprint and/or reprint of publications utilizing the data for inclusion in the TAO bibliography. Relevant publications should be sent to: TAO Project Office, NOAA/Pacific Marine Environmental Laboratory, 7600 Sand Point Way NE, Seattle, WA 98115.
Formal agreements with data suppliers	None
Third party redistribution.	N/A
Miscellaneous	
Comments	None

## 5.7 Surface Drifters (LOCEAN & UoH)

Product name	Surface drifters
ID	2.07
Data type	In situ sea surface salinity
Source	LOCEAN
Key Websites	<a href="https://www.locean-ipsl.upmc.fr/smos/drifters/">https://www.locean-ipsl.upmc.fr/smos/drifters/</a>
Version	
Platform name	
Platform characteristics	
Sensor(s)	
Sensor type	
Sensor key technical characteristics	
Analysis characteristics	



References to technical specifications documents	
Product format	
Data gridding	N/A
Data coverage: temporal	2005 to present
Data coverage: spatial	Global
<b>Project Requirements</b>	
Date required within project	
Use within project	(2) Product validation
Reason for selection	
Temporal coverage required	All available data from 2010 to present
<b>Data quality</b>	
Data calibration	None
Data validation	N/A
Product limitations	None identified
Potential product upgrades	None identified
<b>Data availability</b>	
Available from	LOCEAN
Availability time-scale	Yearly updates
Estimates of data quantity	150 Mb
Product delivery	<a href="https://skyros.locean-ipsl.upmc.fr/~smos/drifters/">https://skyros.locean-ipsl.upmc.fr/~smos/drifters/</a>
Data reliability - space segment	N/A
Data reliability - ground segment	N/A
Pricing	Free
Access conditions	None
Formal agreements with data suppliers	None
Third party redistribution.	N/A
<b>Miscellaneous</b>	
Comments	None

## 5.8 All other in situ data used for CCI product assessment

Product name	
ID	
Data type	
Source	
Key Websites	
Version	
Platform name	
Platform characteristics	
Sensor(s)	
Sensor type	





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Sensor key technical characteristics	
Analysis characteristics	
References to technical specifications documents	
Product format	
Data gridding	
Data coverage: temporal	
Data coverage: spatial	
<b>Project Requirements</b>	
Date required within project	
Use within project	
Reason for selection	
Temporal coverage required	
<b>Data quality</b>	
Data calibration	
Data validation	
Product limitations	
Potential product upgrades	
<b>Data availability</b>	
Available from	
Availability time-scale	
Estimates of data quantity	
Product delivery	
Data reliability - space segment	
Data reliability - ground segment	
Pricing	
Access conditions	
Formal agreements with data suppliers	
Third party redistribution.	
<b>Miscellaneous</b>	
Comments	



## 6 Inter-comparison data & model

### 6.1 JAMSTEC ocean analyses

<b>Product name</b>	MOAA GPV salinity
<b>ID</b>	3.01
<b>Data type</b>	In situ SSS analyses
<b>Source</b>	Japan Marine-Earth Science and Technology Agency (JAMSTEC)
<b>Key Websites</b>	<a href="http://www.jamstec.go.jp/ARGO/argo_web/argo/?page_id=83&amp;lang=en">http://www.jamstec.go.jp/ARGO/argo_web/argo/?page_id=83&amp;lang=en</a>
<b>Version</b>	V 4.2.0
<b>Sensor(s)</b>	Argo floats, TRITON buoys, available CTD casts (corporated with JMA, JGC and JODC)
<b>Analysis characteristics</b>	JAMSTEC produces a gridded dataset named "MOAA GPV" (Grid Point Value of the Monthly Objective Analysis using the Argo data) for the global mapping of temperature and salinity in quasi-real time. The gridded data is created from January 2001 by using 2-D optimal interpolation method with Argo float, TRITON mooring and available CTD data with both temperature and salinity profiles (e.g., White, 1995). From the gridded temperature and salinity data, we show monthly horizontal distributions of global temperature, salinity and those anomalies based on WOA01 climatology, not only in surface layer but also subsurface and deeper layers
<b>References to technical specifications documents</b>	<a href="http://www.jamstec.go.jp/ARGO/argo_web/ancient/MapQ/moaa_gp_v_quickInst_v1.1.pdf">http://www.jamstec.go.jp/ARGO/argo_web/ancient/MapQ/moaa_gp_v_quickInst_v1.1.pdf</a>
<b>Product format</b>	NetCDF
<b>Data gridding</b>	Monthly, 1°x1°, 25 levels from 10 – 2000dbar
<b>Data coverage: temporal</b>	From January,2001 to on going
<b>Data coverage: spatial</b>	Global (70.5°N-60.5°S, 0.5°-359°E)
<b>Project Requirements</b>	
<b>Date required within project</b>	
<b>Use within project</b>	(3) Inter-comparison
<b>Reason for selection</b>	
<b>Temporal coverage required</b>	All available data for 2010-present
<b>Data quality</b>	
<b>Data validation</b>	None
<b>Data availability</b>	
<b>Available from</b>	JAMSTEC
<b>Availability time-scale</b>	2 months behind real time
<b>Estimates of data quantity</b>	1 GB
<b>Product delivery</b>	FTP
<b>Pricing</b>	Free
<b>Access conditions</b>	None
<b>Formal agreements with data suppliers</b>	None
<b>Third party redistribution.</b>	N/A
<b>Miscellaneous</b>	
<b>Comments</b>	None



## 6.2 Met Office ocean analyses (METOF)

<b>Product name</b>	EN4 ocean salinity analyses
<b>ID</b>	3.02
<b>Data type</b>	In situ SSS analyses
<b>Source</b>	MOHC
<b>Key Websites</b>	Met Office Hadley Centre, EN4: quality controlled subsurface ocean temperature and salinity objective analyzes with uncertainty estimates <a href="http://hadobs.metoffice.com/en4/">http://hadobs.metoffice.com/en4/</a> Argo, The International Argo Project Home Page <a href="http://www.argo.net/">http://www.argo.net/</a>
<b>Version</b>	V 4.2.1
<b>Platform name</b>	PROVOR, APEX, and SOLO floats
<b>Platform characteristics</b>	Free-drifting profiling floats
<b>Sensor(s)</b>	Sea-Bird Electronics 41/41CP CTD Module for Autonomous Profiling Floats, Citadel CTD
<b>Sensor type</b>	CTD sensor
<b>Sensor key technical characteristics</b>	
<b>Analysis characteristics</b>	
<b>References to technical specifications documents</b>	
<b>Product format</b>	archived NetCDF files
<b>Data gridding</b>	Monthly, 1°x1°, 42 vertical levels
<b>Data coverage: temporal</b>	1900- on going
<b>Data coverage: spatial</b>	Global
<b>Project Requirements</b>	
<b>Date required within project</b>	
<b>Use within project</b>	(3) Inter-comparison
<b>Reason for selection</b>	
<b>Temporal coverage required</b>	2010-present
<b>Data quality</b>	
<b>Data calibration</b>	
<b>Data validation</b>	N/A
<b>Product limitations</b>	None identified
<b>Potential product upgrades</b>	None identified
<b>Data availability</b>	
<b>Available from</b>	MOHC
<b>Availability time-scale</b>	monthly updates with 2 months delay
<b>Estimates of data quantity</b>	10 GB
<b>Product delivery</b>	<a href="http://hadobs.metoffice.com/en4/download-en4-2-1.html">http://hadobs.metoffice.com/en4/download-en4-2-1.html</a>
<b>Data reliability - space segment</b>	N/A
<b>Data reliability - ground segment</b>	N/A
<b>Pricing</b>	Free
<b>Access conditions</b>	None
<b>Formal agreements with data suppliers</b>	None
<b>Third party redistribution.</b>	N/A



Miscellaneous	
Comments	None

### 6.3 In Situ Analyses System monthly analyses (ISAS)

Product name	ISAS
ID	3.03
Data type	In situ SSS analyses
Source	CMEMS
Key Websites	<a href="http://marine.copernicus.eu/services-portfolio/access-to-products/?option=com_csw&amp;view=details&amp;product_id=INSITU_GLO_TS_OA_NRT_OBSERVATIONS_013_002_a">http://marine.copernicus.eu/services-portfolio/access-to-products/?option=com_csw&amp;view=details&amp;product_id=INSITU_GLO_TS_OA_NRT_OBSERVATIONS_013_002_a</a>
Version	
Platform name	
Platform characteristics	
Sensor(s)	
Sensor type	
Sensor key technical characteristics	
Analysis characteristics	The operational analysis system set up by the in-situ TAC Global component operated by Coriolis data centre. It produces temperature and salinity gridded fields. The system is based on a statistical estimation method (objective analysis). This system allows presenting a synthesis and a validation of the dataset, providing a support for localized experience (cruises), providing a validation source for operational models, observing seasonal cycle and inter-annual variability. This system is operated by the in-situ TAC monthly for validation purposes and for the research community: at the beginning of each month the daily fields of the previous month are reprocessed using all the data available for the period. These monthly data are distributed freely through CMEMS distribution means.
References to technical specifications documents	<a href="http://marine.copernicus.eu/documents/PUM/CMEMS-INS-PUM-013-002-ab.pdf">http://marine.copernicus.eu/documents/PUM/CMEMS-INS-PUM-013-002-ab.pdf</a> <a href="http://marine.copernicus.eu/documents/QUID/CMEMS-INS-QUID-013-002a.pdf">http://marine.copernicus.eu/documents/QUID/CMEMS-INS-QUID-013-002a.pdf</a>
Product format	NetCDF
Data gridding	Monthly, 0.5°x0.5° (Mercator projection), 152 vertical levels
Data coverage: temporal	2010 to present
Data coverage: spatial	Global (-77°N to 90°N, -180°E to 180°E)
<b>Project Requirements</b>	
Date required within project	
Use within project	(3) Inter-comparison
Reason for selection	
Temporal coverage required	2010-present
<b>Data quality</b>	
Data calibration	
Data validation	N/A
Product limitations	None identified
Potential product upgrades	None identified
<b>Data availability</b>	
Available from	CMEMS



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Availability time-scale	monthly updates with 2 months delay
Estimates of data quantity	20 GB
Product delivery	<a href="http://marine.copernicus.eu/services-portfolio/access-to-products/?option=com_csw&amp;view=details&amp;product_id=INSITU_GLO_TS_OA_NRT_OBSERVATIONS_013_002_a">http://marine.copernicus.eu/services-portfolio/access-to-products/?option=com_csw&amp;view=details&amp;product_id=INSITU_GLO_TS_OA_NRT_OBSERVATIONS_013_002_a</a>
Pricing	Free
Access conditions	User registration
Formal agreements with data suppliers	None
Third party redistribution.	N/A
<b>Miscellaneous</b>	
Comments	None

## 6.4 International Pacific Research Center Argo analyses (ARGO IPRC)

Product name	Argo gridded monthly mean salinity (IPRC)
ID	3.04
Data type	In situ SSS analyses
Source	IPRC
Key Websites	<a href="http://apdrc.soest.hawaii.edu/dods/public_data/Argo_Products/monthly_mean/Gridded_monthly_mean.info">http://apdrc.soest.hawaii.edu/dods/public_data/Argo_Products/monthly_mean/Gridded_monthly_mean.info</a> <a href="http://apdrc.soest.hawaii.edu/projects/argo/">http://apdrc.soest.hawaii.edu/projects/argo/</a>
Version	
Platform name	
Platform characteristics	
Sensor(s)	
Sensor type	
Sensor key technical characteristics	
Analysis characteristics	
References to technical specifications documents	
Product format	NetCDF
Data gridding	Monthly, 1°x1°, 27 vertical levels
Data coverage: temporal	2005 to present
Data coverage: spatial	Global
<b>Project Requirements</b>	
Date required within project	
Use within project	(3) Inter-comparison
Reason for selection	
Temporal coverage required	2010-present
<b>Data quality</b>	
Data calibration	



Data validation	N/A
Product limitations	None identified
Potential product upgrades	None identified
<b>Data availability</b>	
Available from	APDRC
Availability time-scale	monthly updates with 1 month delay
Estimates of data quantity	4 Gb
Product delivery	<a href="http://apdrc.soest.hawaii.edu/projects/Argo/data/gridded/On_standard_levels/Monthly_mean/1x1/">http://apdrc.soest.hawaii.edu/projects/Argo/data/gridded/On_standard_levels/Monthly_mean/1x1/</a>
Data reliability - space segment	N/A
Data reliability - ground segment	N/A
Pricing	Free
Access conditions	None
Formal agreements with data suppliers	None
Third party redistribution.	N/A
<b>Miscellaneous</b>	
Comments	None

## 6.5 Roemmich-Gilson Argo Climatology

Product name	RG ARGO CLIM
ID	3.05
Data type	In situ SSS analyses
Source	SIO
Key Websites	<a href="http://sio-argo.ucsd.edu/RG_Climatology.html">http://sio-argo.ucsd.edu/RG_Climatology.html</a>
Version	
Platform name	
Platform characteristics	
Sensor(s)	
Sensor type	
Sensor key technical characteristics	
Analysis characteristics	
References to technical specifications documents	
Product format	NetCDF
Data gridding	Monthly, 1°x1°, 58 vertical levels
Data coverage: temporal	2004-present
Data coverage: spatial	Global (-64.5°N to 79.5°N, -180°E to 180°E)
<b>Project Requirements</b>	
Date required within project	
Use within project	(3) Inter-comparison



<b>Reason for selection</b>	
<b>Temporal coverage required</b>	2010-present
<b>Data quality</b>	
<b>Data calibration</b>	
<b>Data validation</b>	N/A
<b>Product limitations</b>	None identified
<b>Potential product upgrades</b>	None identified
<b>Data availability</b>	
<b>Available from</b>	SIO
<b>Availability time-scale</b>	monthly updates with 2 months delay
<b>Estimates of data quantity</b>	3.3 Gb
<b>Product delivery</b>	<a href="ftp://kakapo.ucsd.edu/pub/argo/Global_Marine_Argo_Atlas/">ftp://kakapo.ucsd.edu/pub/argo/Global_Marine_Argo_Atlas/</a>
<b>Data reliability - space segment</b>	N/A
<b>Data reliability - ground segment</b>	N/A
<b>Pricing</b>	Free
<b>Access conditions</b>	None
<b>Formal agreements with data suppliers</b>	None
<b>Third party redistribution.</b>	N/A
<b>Miscellaneous</b>	
<b>Comments</b>	None

## 6.6 CMEMS MULTIOBS\_GLO\_PHY\_REP\_015\_002

<b>Product name</b>	MULTIOBS GLO PHY REP 015 002
<b>ID</b>	3.06
<b>Data type</b>	In situ SSS analyses
<b>Source</b>	CMEMS
<b>Key Websites</b>	<a href="http://marine.copernicus.eu/services-portfolio/access-to-products/?option=com_csw&amp;view=details&amp;product_id=MULTIOBS_GLO_PHY_REP_015_002">http://marine.copernicus.eu/services-portfolio/access-to-products/?option=com_csw&amp;view=details&amp;product_id=MULTIOBS_GLO_PHY_REP_015_002</a>
<b>Version</b>	
<b>Platform name</b>	
<b>Platform characteristics</b>	
<b>Sensor(s)</b>	
<b>Sensor type</b>	
<b>Sensor key technical characteristics</b>	
<b>Analysis characteristics</b>	The Global SSS/SSD L4 Reprocessed dataset is obtained by interpolating in situ SSS/SSD through a multi-dimensional covariance model that accounts for space-time and thermal decorrelation, estimated by including information from high-pass filtered daily SST L4 data. The processing provides a correction to the ISAS-CORA SSS field, combining QC SSS measurements obtained from ISAS-CORA (both distributed through CMEMS) and high-pass filtered Reynolds SST L4 satellite observations.
<b>References to technical specifications documents</b>	<a href="http://marine.copernicus.eu/documents/PUM/CMEMS-MOB-PUM-015-002.pdf">http://marine.copernicus.eu/documents/PUM/CMEMS-MOB-PUM-015-002.pdf</a> <a href="http://marine.copernicus.eu/documents/QUID/CMEMS-MOB-QUID-015-002.pdf">http://marine.copernicus.eu/documents/QUID/CMEMS-MOB-QUID-015-002.pdf</a>



<b>Product format</b>	NetCDF
<b>Data gridding</b>	Weekly/Monthly, 0.5°x0.5°, 33 vertical levels
<b>Data coverage: temporal</b>	2005 to present
<b>Data coverage: spatial</b>	Global
<b>Project Requirements</b>	
<b>Date required within project</b>	
<b>Use within project</b>	
<b>Reason for selection</b>	
<b>Temporal coverage required</b>	
<b>Data quality</b>	
<b>Data calibration</b>	
<b>Data validation</b>	
<b>Product limitations</b>	
<b>Potential product upgrades</b>	
<b>Data availability</b>	
<b>Available from</b>	CMEMS
<b>Availability time-scale</b>	Yearly updates
<b>Estimates of data quantity</b>	5.3 Gb
<b>Product delivery</b>	<a href="http://marine.copernicus.eu/services-portfolio/access-to-products/?option=com_csw&amp;view=details&amp;product_id=MULTIOBS_GLO_PHY_REP_015_002">http://marine.copernicus.eu/services-portfolio/access-to-products/?option=com_csw&amp;view=details&amp;product_id=MULTIOBS_GLO_PHY_REP_015_002</a>
<b>Data reliability - space segment</b>	N/A
<b>Data reliability - ground segment</b>	N/A
<b>Pricing</b>	Free
<b>Access conditions</b>	User registration
<b>Formal agreements with data suppliers</b>	None
<b>Third party redistribution.</b>	N/A
<b>Miscellaneous</b>	
<b>Comments</b>	None

## 6.7 World Ocean Atlas 2009

<b>Product name</b>	WOA 2009
<b>ID</b>	3.07
<b>Data type</b>	In situ SSS climatology
<b>Source</b>	NOAA
<b>Key Websites</b>	<a href="https://www.nodc.noaa.gov/OC5/woa09/">https://www.nodc.noaa.gov/OC5/woa09/</a>
<b>Version</b>	
<b>Platform name</b>	
<b>Platform characteristics</b>	
<b>Sensor(s)</b>	
<b>Sensor type</b>	





<b>Sensor key technical characteristics</b>	
<b>Analysis characteristics</b>	
<b>References to technical specifications documents</b>	
<b>Product format</b>	NetCDF
<b>Data gridding</b>	Monthly/Seasonal/Annual, 1°x1°, 33 vertical levels
<b>Data coverage: temporal</b>	1890-2008
<b>Data coverage: spatial</b>	Global (-90°N to 90°N, 0° to 360°)
<b>Project Requirements</b>	
<b>Date required within project</b>	
<b>Use within project</b>	
<b>Reason for selection</b>	
<b>Temporal coverage required</b>	
<b>Data quality</b>	
<b>Data calibration</b>	
<b>Data validation</b>	
<b>Product limitations</b>	
<b>Potential product upgrades</b>	
<b>Data availability</b>	
<b>Available from</b>	NOAA
<b>Availability time-scale</b>	N/A
<b>Estimates of data quantity</b>	1.8 Gb
<b>Product delivery</b>	<a href="https://data.nodc.noaa.gov/woa/WOA09/NetCDFdata/">https://data.nodc.noaa.gov/woa/WOA09/NetCDFdata/</a>
<b>Data reliability - space segment</b>	N/A
<b>Data reliability - ground segment</b>	N/A
<b>Pricing</b>	Free
<b>Access conditions</b>	None
<b>Formal agreements with data suppliers</b>	None
<b>Third party redistribution.</b>	N/A
<b>Miscellaneous</b>	
<b>Comments</b>	None

## 6.8 World Ocean Atlas 2013

<b>Product name</b>	WOA 2013
<b>ID</b>	3.08
<b>Data type</b>	In situ SSS climatology
<b>Source</b>	NOAA
<b>Key Websites</b>	<a href="https://www.nodc.noaa.gov/OC5/woa13/">https://www.nodc.noaa.gov/OC5/woa13/</a>
<b>Version</b>	V2
<b>Platform name</b>	



<b>Platform characteristics</b>	
<b>Sensor(s)</b>	
<b>Sensor type</b>	
<b>Sensor key technical characteristics</b>	
<b>Analysis characteristics</b>	
<b>References to technical specifications documents</b>	
<b>Product format</b>	NetCDF
<b>Data gridding</b>	Monthly/Seasonal/Annual, 0.25°x0.25°, 102 vertical levels
<b>Data coverage: temporal</b>	1890-2008
<b>Data coverage: spatial</b>	Global (-90°N to 90°N, 0° to 360°)
<b>Project Requirements</b>	
<b>Date required within project</b>	
<b>Use within project</b>	
<b>Reason for selection</b>	
<b>Temporal coverage required</b>	
<b>Data quality</b>	
<b>Data calibration</b>	
<b>Data validation</b>	
<b>Product limitations</b>	
<b>Potential product upgrades</b>	
<b>Data availability</b>	
<b>Available from</b>	NOAA
<b>Availability time-scale</b>	N/A
<b>Estimates of data quantity</b>	31.5 Gb
<b>Product delivery</b>	<a href="http://data.nodc.noaa.gov/thredds/fileServer/woa/WOA13/DATAv2/salinity/netcdf/">http://data.nodc.noaa.gov/thredds/fileServer/woa/WOA13/DATAv2/salinity/netcdf/</a>
<b>Data reliability - space segment</b>	N/A
<b>Data reliability - ground segment</b>	N/A
<b>Pricing</b>	Free
<b>Access conditions</b>	None
<b>Formal agreements with data suppliers</b>	None
<b>Third party redistribution.</b>	N/A
<b>Miscellaneous</b>	
<b>Comments</b>	None

## 6.9 World Ocean Atlas 2018

<b>Product name</b>	WOA 2018
<b>ID</b>	3.09
<b>Data type</b>	In situ SSS climatology
<b>Source</b>	NOAA



<b>Key Websites</b>	<a href="https://www.nodc.noaa.gov/OC5/woa18/">https://www.nodc.noaa.gov/OC5/woa18/</a>
<b>Version</b>	
<b>Platform name</b>	
<b>Platform characteristics</b>	
<b>Sensor(s)</b>	
<b>Sensor type</b>	
<b>Sensor key technical characteristics</b>	
<b>Analysis characteristics</b>	
<b>References to technical specifications documents</b>	
<b>Product format</b>	NetCDF
<b>Data gridding</b>	Monthly/Seasonal/Annual, 0.25°x0.25°, 102 vertical levels
<b>Data coverage: temporal</b>	1890-2017
<b>Data coverage: spatial</b>	Global (-90°N to 90°N, 0° to 360°)
<b>Project Requirements</b>	
<b>Date required within project</b>	
<b>Use within project</b>	
<b>Reason for selection</b>	
<b>Temporal coverage required</b>	
<b>Data quality</b>	
<b>Data calibration</b>	
<b>Data validation</b>	
<b>Product limitations</b>	
<b>Potential product upgrades</b>	
<b>Data availability</b>	
<b>Available from</b>	NOAA
<b>Availability time-scale</b>	N/A
<b>Estimates of data quantity</b>	31.5 Gb
<b>Product delivery</b>	<a href="http://data.nodc.noaa.gov/woa/WOA18/DATA/salinity/netcdf/">http://data.nodc.noaa.gov/woa/WOA18/DATA/salinity/netcdf/</a>
<b>Data reliability - space segment</b>	N/A
<b>Data reliability - ground segment</b>	N/A
<b>Pricing</b>	Free
<b>Access conditions</b>	None
<b>Formal agreements with data suppliers</b>	None
<b>Third party redistribution.</b>	N/A
<b>Miscellaneous</b>	
<b>Comments</b>	None

## 6.10 SMOS L3 CATDS-CPDC

<b>Product name</b>	SMOS L3 CATDS-CPDC
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<b>ID</b>	3.10
<b>Data type</b>	Satellite SSS
<b>Source</b>	CATDS
<b>Key Websites</b>	<a href="http://www.catds.fr/Products/Available-products-from-CPDC/Catalogue/Catds-products-from-Sextant#/metadata/0f02fc28-cb86-4c44-89f3-ee7df6177e7b">http://www.catds.fr/Products/Available-products-from-CPDC/Catalogue/Catds-products-from-Sextant#/metadata/0f02fc28-cb86-4c44-89f3-ee7df6177e7b</a>
<b>Version</b>	V3
<b>Platform name</b>	SMOS
<b>Platform characteristics</b>	
<b>Sensor(s)</b>	MIRAS
<b>Sensor type</b>	
<b>Sensor key technical characteristics</b>	
<b>Analysis characteristics</b>	
<b>References to technical specifications documents</b>	
<b>Product format</b>	NetCDF archived files (tgz)
<b>Data gridding</b>	10 days, 25 x 25 km
<b>Data coverage: temporal</b>	January 2010 to present
<b>Data coverage: spatial</b>	Global (60S – 60 N)
<b>Project Requirements</b>	
<b>Date required within project</b>	
<b>Use within project</b>	(3) Inter-comparison
<b>Reason for selection</b>	
<b>Temporal coverage required</b>	2010-present
<b>Data quality</b>	
<b>Data calibration</b>	
<b>Data validation</b>	N/A
<b>Product limitations</b>	None identified
<b>Potential product upgrades</b>	None identified
<b>Data availability</b>	
<b>Available from</b>	CATDS
<b>Availability time-scale</b>	Near real time
<b>Estimates of data quantity</b>	
<b>Product delivery</b>	ftp://c1e96d:xov8ng28@efp.ifremer.fr/OS/GRIDDED/L3OS/OPER/
<b>Data reliability - space segment</b>	N/A
<b>Data reliability - ground segment</b>	N/A
<b>Pricing</b>	Free
<b>Access conditions</b>	None
<b>Formal agreements with data suppliers</b>	None
<b>Third party redistribution.</b>	N/A
<b>Miscellaneous</b>	
<b>Comments</b>	None



## 6.11 SMOS L3 CATDS-CECOS-LOCEAN

<b>Product name</b>	SMOS L3 CATDS-CECOS-LOCEAN
<b>ID</b>	3.11
<b>Data type</b>	Satellite SSS
<b>Source</b>	CATDS
<b>Key Websites</b>	<a href="http://www.catds.fr/Products/Available-products-from-CEC-OS/CEC-Locean-L3-Debiased-v3">http://www.catds.fr/Products/Available-products-from-CEC-OS/CEC-Locean-L3-Debiased-v3</a>
<b>Version</b>	V3
<b>Platform name</b>	SMOS
<b>Platform characteristics</b>	
<b>Sensor(s)</b>	MIRAS
<b>Sensor type</b>	
<b>Sensor key technical characteristics</b>	
<b>Analysis characteristics</b>	
<b>References to technical specifications documents</b>	
<b>Product format</b>	NetCDF
<b>Data gridding</b>	9 days, 25 x 25 km
<b>Data coverage: temporal</b>	January 2010 to present
<b>Data coverage: spatial</b>	Global
<b>Project Requirements</b>	
<b>Date required within project</b>	
<b>Use within project</b>	(3) Inter-comparison
<b>Reason for selection</b>	
<b>Temporal coverage required</b>	2010-present
<b>Data quality</b>	
<b>Data calibration</b>	N/A
<b>Data validation</b>	N/A
<b>Product limitations</b>	None identified
<b>Potential product upgrades</b>	None identified
<b>Data availability</b>	
<b>Available from</b>	CATDS
<b>Availability time-scale</b>	Yearly update
<b>Estimates of data quantity</b>	2.2 Gb
<b>Product delivery</b>	ftp://ext-catds-cecos-locean:catds2010@ftp.ifremer.fr/
<b>Data reliability - space segment</b>	N/A
<b>Data reliability - ground segment</b>	N/A
<b>Pricing</b>	Free
<b>Access conditions</b>	None
<b>Formal agreements with data suppliers</b>	None
<b>Third party redistribution.</b>	N/A
<b>Miscellaneous</b>	



Comments	None
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## 6.12 SMOS L3 CATDS-CECOS-IFREMER

Product name	SMOS L3 CATDS-CECOS-IFREMER
ID	3.12
Data type	Satellite SSS
Source	CATDS
Key Websites	<a href="http://www.catds.fr/Products/Available-products-from-CEC-OS/CEC-Ifremer-Dataset-V02">http://www.catds.fr/Products/Available-products-from-CEC-OS/CEC-Ifremer-Dataset-V02</a>
Version	V2
Platform name	SMOS
Platform characteristics	
Sensor(s)	MIRAS
Sensor type	
Sensor key technical characteristics	
Analysis characteristics	
References to technical specifications documents	
Product format	NetCDF
Data gridding	Daily, 0.5 x 0.5 degree
Data coverage: temporal	May 2010 to present
Data coverage: spatial	Global
<b>Project Requirements</b>	
Date required within project	
Use within project	(3) Inter-comparison
Reason for selection	
Temporal coverage required	2010-present
<b>Data quality</b>	
Data calibration	N/A
Data validation	N/A
Product limitations	None identified
Potential product upgrades	None identified
<b>Data availability</b>	
Available from	CATDS
Availability time-scale	N/A
Estimates of data quantity	19 Gb
Product delivery	ftp://ext-catds-cecos-ifremer.catds2010@ftp.ifremer.fr/
Data reliability - space segment	N/A
Data reliability - ground segment	N/A
Pricing	Free
Access conditions	None



Formal agreements with data suppliers	None
Third party redistribution.	N/A
<b>Miscellaneous</b>	
Comments	None

## 6.13 SMOS L3 OA BEC

Product name	SMOS L3 OA BEC
ID	3.13
Data type	Satellite SSS
Source	BEC
Key Websites	<a href="http://bec.icm.csic.es/ocean-experimental-dataset-global/">http://bec.icm.csic.es/ocean-experimental-dataset-global/</a>
Version	V1
Platform name	SMOS
Platform characteristics	
Sensor(s)	MIRAS
Sensor type	
Sensor key technical characteristics	
Analysis characteristics	
References to technical specifications documents	
Product format	NetCDF
Data gridding	9 Days, 0.25 x 0.25 degree
Data coverage: temporal	May 2010 to present
Data coverage: spatial	Global
<b>Project Requirements</b>	
Date required within project	
Use within project	(3) Inter-comparison
Reason for selection	
Temporal coverage required	2010-present
<b>Data quality</b>	
Data calibration	N/A
Data validation	N/A
Product limitations	None identified
Potential product upgrades	None identified
<b>Data availability</b>	
Available from	BEC
Availability time-scale	N/A
Estimates of data quantity	5.7 Gb/year
Product delivery	https
Data reliability - space segment	N/A



Data reliability - ground segment	N/A
Pricing	Free
Access conditions	User registration
Formal agreements with data suppliers	None
Third party redistribution.	N/A
<b>Miscellaneous</b>	
Comments	None

## 6.14 SMAP L3 JPL

Product name	SMAP L3 JPL
ID	3.14
Data type	Satellite SSS
Source	JPL
Key Websites	<a href="https://podaac.jpl.nasa.gov/dataset/SMAP_JPL_L3_SSS_CAP_8DAY-RUNNINGMEAN_V4?ids=Platform&amp;values=SMAP">https://podaac.jpl.nasa.gov/dataset/SMAP_JPL_L3_SSS_CAP_8DAY-RUNNINGMEAN_V4?ids=Platform&amp;values=SMAP</a>
Version	V4
Platform name	Soil Moisture Active Passive
Platform characteristics	Sun-synchronous orbit with ascending equator crossings at 18:00 h Revisit time: ~8 days
Sensor(s)	Radiometer
Sensor type	Microwave radiometer
Sensor key technical characteristics	<ul style="list-style-type: none"> <li>L-band Microwave radiometer (1.4 GHz)</li> <li>Polarization: H, V, 3rd and 4th Skokes</li> <li>Incidence angle 40 degrees</li> <li>39x47 km spatial resolution</li> </ul> Relative accuracy: 1 K
Analysis characteristics	
References to technical specifications documents	
Product format	NetCDF
Data gridding	8 day running mean, 0.25°x 0.25°
Data coverage: temporal	April 2015 to present
Data coverage: spatial	Global
<b>Project Requirements</b>	
Date required within project	Start Phase II
Use within project	(1) Long term ECV (3) Inter-comparison
Reason for selection	Spatial coverage
Temporal coverage required	All available data for 2015 to present
<b>Data quality</b>	
Data calibration	N/A
Data validation	N/A
Product limitations	Known calibration problems
Potential product upgrades	2019





Data availability	
Available from	JPL
Availability time-scale	Near real time (16 day delay)
Estimates of data quantity	8 Gb/year
Product delivery	ftp://podaac-ftp.jpl.nasa.gov/allData/smmap/L3/JPL/V4
Data reliability - space segment	No redundancy
Data reliability - ground segment	No redundancy
Pricing	Free
Access conditions	Free
Formal agreements with data suppliers	None
Third party redistribution.	None
Miscellaneous	
Comments	None

## 6.15 SMAP L3 RSS 70KM

Product name	SMAP L3 RSS 70KM
ID	3.15
Data type	Satellite SSS
Source	RSS
Key Websites	<a href="http://www.remss.com/missions/smmap/">http://www.remss.com/missions/smmap/</a>
Version	V3
Platform name	Soil Moisture Active Passive
Platform characteristics	Sun-synchronous orbit with ascending equator crossings at 18:00 h Revisit time: ~8 days
Sensor(s)	Radiometer
Sensor type	Microwave radiometer
Sensor key technical characteristics	<ul style="list-style-type: none"> <li>L-band Microwave radiometer (1.4 GHz)</li> <li>Polarization: H, V, 3rd and 4th Stokes</li> <li>Incidence angle 40 degrees</li> <li>39x47 km spatial resolution</li> </ul> Relative accuracy: 1 K
Analysis characteristics	
References to technical specifications documents	
Product format	NetCDF
Data gridding	8 day running mean, 0.25°x 0.25°
Data coverage: temporal	April 2015 to present
Data coverage: spatial	Global
Project Requirements	
Date required within project	Start Phase II
Use within project	(1) Long term ECV (3) Inter-comparison
Reason for selection	Spatial coverage
Temporal coverage required	All available data for 2015 to present



Data quality	
Data calibration	N/A
Data validation	N/A
Product limitations	None
Potential product upgrades	2019-2020
Data availability	
Available from	RSS/JPL
Availability time-scale	Near real time (16 day delay)
Estimates of data quantity	3.3 Gb/year
Product delivery	<a href="http://www.remss.com/missions/smap/">http://www.remss.com/missions/smap/</a> <a href="ftp://podaac-ftp.jpl.nasa.gov/allData/smap/L3/RSS/V3/8day_running/SCI/70KM/">ftp://podaac-ftp.jpl.nasa.gov/allData/smap/L3/RSS/V3/8day_running/SCI/70KM/</a>
Data reliability - space segment	No redundancy
Data reliability - ground segment	No redundancy
Pricing	Free
Access conditions	Free
Formal agreements with data suppliers	None
Third party redistribution.	None
Miscellaneous	
Comments	None

## 6.16 Aquarius L3 CAP

Product name	Aquarius L3 CAP
ID	3.16
Data type	Satellite: sea surface salinity
Source	NASA
Key Websites	<a href="http://aquarius.nasa.gov/index.html">http://aquarius.nasa.gov/index.html</a>
Version	V5
Platform name	SAC-D
Platform characteristics	Sun-synchronous polar orbit with ascending equator crossings at 18:00 h Revisit time: ~7 days
Sensor(s)	Radiometer
Sensor type	Microwave radiometer
Sensor key technical characteristics	<ul style="list-style-type: none"> <li>L band radiometer (1.4 Ghz) and L band (1.26 GHz) Scatterometer</li> <li>polarimetric Radiometer (TH, TV, U (T+45°, T-45°)</li> <li>polarimetric (co-pol and cross-pol) Scatterometer</li> <li>three beams: inner beam 28.7 degrees, middle beam 37.8 degrees and outer beam 45.6 degrees</li> <li>Spatial resolution radiometer: 98 km (inner beam), 126 km (middle beam), 164.1 km (outer beam)</li> <li>Spatial resolution scatterometer: 74.3 km (inner beam), 94.9 km (middle beam), 127.6 km (outer beam)</li> <li>Radiometric sensitivity (noise): 0.06 K for the L band radiometer and between 0.04-0.1 dB for the Radar</li> </ul>
Analysis characteristics	



<b>References to technical specifications documents</b>	
Product format	NetCDF
Data gridding	7-day running, 1°x1°
Data coverage: temporal	June 2011 – Mai 2015
Data coverage: spatial	Global
<b>Project Requirements</b>	
Date required within project	Start Phase II
Use within project	(1) Long term ECV
Reason for selection	Accuracy
Temporal coverage required	All available data for 2011 to 2015
<b>Data quality</b>	
Data calibration	N/A
Data validation	N/A
Product limitations	Low spatial resolution
Potential product upgrades	None
<b>Data availability</b>	
Available from	JPL
Availability time-scale	N/A
Estimates of data quantity	7.5 Gb
Product delivery	<a href="ftp://podaac-ftp.jpl.nasa.gov/allData/aquarius/L3/mapped/CAPv5/7day/SCI/">ftp://podaac-ftp.jpl.nasa.gov/allData/aquarius/L3/mapped/CAPv5/7day/SCI/</a>
Data reliability - space segment	N/A
Data reliability - ground segment	N/A
Pricing	Free
Access conditions	Free
Formal agreements with data suppliers	None
Third party redistribution.	None
<b>Miscellaneous</b>	
Comments	None

## 6.17 Aquarius L3 OR

Product name	Aquarius L3 OR
ID	3.17
Data type	Satellite: sea surface salinity
Source	NASA
Key Websites	<a href="http://aquarius.nasa.gov/index.html">http://aquarius.nasa.gov/index.html</a>
Version	V5
Platform name	SAC-D
Platform characteristics	Sun-synchronous polar orbit with ascending equator crossings at 18:00 h Revisit time: ~7 days



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<b>Sensor(s)</b>	Radiometer
<b>Sensor type</b>	Microwave radiometer
<b>Sensor key technical characteristics</b>	<ul style="list-style-type: none"> <li>L band radiometer (1.4 Ghz) and L band (1.26 GHz) Scatterometer</li> <li>polarimetric Radiometer (TH, TV, U (T+45°, T-45°))</li> <li>polarimetric (co-pol and cross-pol) Scatterometer</li> <li>three beams: inner beam 28.7 degrees, middle beam 37.8 degrees and outer beam 45.6 degrees</li> <li>Spatial resolution radiometer: 98 km (inner beam), 126 km (middle beam), 164.1 km (outer beam)</li> <li>Spatial resolution scatterometer: 74.3 km (inner beam), 94.9 km (middle beam), 127.6 km (outer beam)</li> </ul> Radiometric sensitivity (noise): 0.06 K for the L band radiometer and between 0.04-0.1 dB for the Radar
<b>Analysis characteristics</b>	
<b>References to technical specifications documents</b>	
<b>Product format</b>	NetCDF)
<b>Data gridding</b>	7-day running, 1°x1°
<b>Data coverage: temporal</b>	June 2011 – Mai 2015
<b>Data coverage: spatial</b>	Global
<b>Project Requirements</b>	
<b>Date required within project</b>	Start Phase II
<b>Use within project</b>	(1) Long term ECV
<b>Reason for selection</b>	Accuracy
<b>Temporal coverage required</b>	All available data for 2011 to 2015
<b>Data quality</b>	
<b>Data calibration</b>	
<b>Data validation</b>	
<b>Product limitations</b>	
<b>Potential product upgrades</b>	None
<b>Data availability</b>	
<b>Available from</b>	NASA ESDIS
<b>Availability time-scale</b>	N/A
<b>Estimates of data quantity</b>	7.9 Gb
<b>Product delivery</b>	<a href="ftp://podaac-ftp.jpl.nasa.gov/allData/aquarius/L3/mapped/V5/7day_running/SCI/">ftp://podaac-ftp.jpl.nasa.gov/allData/aquarius/L3/mapped/V5/7day_running/SCI/</a>
<b>Data reliability - space segment</b>	N/A
<b>Data reliability - ground segment</b>	N/A
<b>Pricing</b>	Free
<b>Access conditions</b>	Free
<b>Formal agreements with data suppliers</b>	None
<b>Third party redistribution.</b>	None
<b>Miscellaneous</b>	
<b>Comments</b>	None



## 6.18 SMOS L3 ICDC

<b>Product name</b>	SMOS L3 ICDC
<b>ID</b>	3.18
<b>Data type</b>	Satellite SSS
<b>Source</b>	ICDC
<b>Key Websites</b>	<a href="http://icdc.cen.uni-hamburg.de/1/daten/ocean/smos-sss.html">http://icdc.cen.uni-hamburg.de/1/daten/ocean/smos-sss.html</a>
<b>Version</b>	V3
<b>Platform name</b>	SMOS
<b>Platform characteristics</b>	
<b>Sensor(s)</b>	MIRAS
<b>Sensor type</b>	
<b>Sensor key technical characteristics</b>	
<b>Analysis characteristics</b>	
<b>References to technical specifications documents</b>	
<b>Product format</b>	NetCDF
<b>Data gridding</b>	Monthly, 0.5°x 0.5°degree
<b>Data coverage: temporal</b>	May 2010 to December 2016
<b>Data coverage: spatial</b>	Global
<b>Project Requirements</b>	
<b>Date required within project</b>	
<b>Use within project</b>	(3) Inter-comparison
<b>Reason for selection</b>	
<b>Temporal coverage required</b>	2010-present
<b>Data quality</b>	
<b>Data calibration</b>	N/A
<b>Data validation</b>	N/A
<b>Product limitations</b>	None identified
<b>Potential product upgrades</b>	None identified
<b>Data availability</b>	
<b>Available from</b>	ICDC
<b>Availability time-scale</b>	N/A
<b>Estimates of data quantity</b>	400 Mb
<b>Product delivery</b>	<a href="ftp://ftp-icdc.cen.uni-hamburg.de/smos_sss/SMOS_SSS_2010_2016_V3.nc">ftp://ftp-icdc.cen.uni-hamburg.de/smos_sss/SMOS_SSS_2010_2016_V3.nc</a>
<b>Data reliability - space segment</b>	N/A
<b>Data reliability - ground segment</b>	N/A
<b>Pricing</b>	Free
<b>Access conditions</b>	Free
<b>Formal agreements with data suppliers</b>	None
<b>Third party redistribution.</b>	N/A
<b>Miscellaneous</b>	



Comments	None
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## 6.19 SMOS L4 CATDS-CECOS-IFREMER

Product name	SMOS L3 ICDC
ID	3.19
Data type	Satellite SSS
Source	Ifremer
Key Websites	<a href="https://www.catds.fr/Products/Available-products-from-CEC-OS/ifremer-L4-Products">https://www.catds.fr/Products/Available-products-from-CEC-OS/ifremer-L4-Products</a>
Version	V2
Platform name	SMOS
Platform characteristics	
Sensor(s)	MIRAS
Sensor type	
Sensor key technical characteristics	
Analysis characteristics	
References to technical specifications documents	
Product format	NetCDF
Data gridding	Weekly, 0.5°x 0.5°degree
Data coverage: temporal	May 2010 to December 2017
Data coverage: spatial	Global
<b>Project Requirements</b>	
Date required within project	
Use within project	(3) Inter-comparison
Reason for selection	
Temporal coverage required	2010-present
<b>Data quality</b>	
Data calibration	N/A
Data validation	N/A
Product limitations	None identified
Potential product upgrades	None identified
<b>Data availability</b>	
Available from	CATDS
Availability time-scale	N/A
Estimates of data quantity	1.5 Gb
Product delivery	<a href="ftp://ext-catds-cecos-ifremer.catds2010@ftp.ifremer.fr/">ftp://ext-catds-cecos-ifremer.catds2010@ftp.ifremer.fr/</a>
Data reliability - space segment	N/A
Data reliability - ground segment	N/A
Pricing	Free
Access conditions	Free



Formal agreements with data suppliers	None
Third party redistribution.	N/A
<b>Miscellaneous</b>	
Comments	None

## 6.20 SMOS L3 OA BEC

Product name	SMOS L3 OA BEC
ID	3.20
Data type	Satellite SSS
Source	BEC
Key Websites	<a href="http://bec.icm.csic.es/ocean-experimental-dataset-global/">http://bec.icm.csic.es/ocean-experimental-dataset-global/</a>
Version	V1
Platform name	SMOS
Platform characteristics	
Sensor(s)	MIRAS
Sensor type	
Sensor key technical characteristics	
Analysis characteristics	
References to technical specifications documents	
Product format	NetCDF
Data gridding	9 Days, 0.05 x 0.05 degree
Data coverage: temporal	May 2010 to December 2016
Data coverage: spatial	Global
<b>Project Requirements</b>	
Date required within project	
Use within project	(3) Inter-comparison
Reason for selection	
Temporal coverage required	2010-present
<b>Data quality</b>	
Data calibration	N/A
Data validation	N/A
Product limitations	None identified
Potential product upgrades	None identified
<b>Data availability</b>	
Available from	BEC
Availability time-scale	N/A
Estimates of data quantity	76 Gb/year
Product delivery	https
Data reliability - space segment	N/A



Data reliability - ground segment	N/A
Pricing	Free
Access conditions	User registration
Formal agreements with data suppliers	None
Third party redistribution.	N/A
<b>Miscellaneous</b>	
Comments	None

## 6.21 Aquarius L4 OI IPRC

Product name	Aquarius L4 OI IPRC
ID	3.21
Data type	Satellite: sea surface salinity
Source	IPRC
Key Websites	<a href="http://aquarius.nasa.gov/index.html">http://aquarius.nasa.gov/index.html</a>
Version	V5
Platform name	SAC-D
Platform characteristics	Sun-synchronous polar orbit with ascending equator crossings at 18:00 h Revisit time: ~7 days
Sensor(s)	Radiometer
Sensor type	Microwave radiometer
Sensor key technical characteristics	<ul style="list-style-type: none"> <li>L band radiometer (1.4 Ghz) and L band (1.26 GHz) Scatterometer</li> <li>polarimetric Radiometer (TH, TV, U (T+45°, T-45°))</li> <li>polarimetric (co-pol and cross-pol) Scatterometer</li> <li>three beams: inner beam 28.7 degrees, middle beam 37.8 degrees and outer beam 45.6 degrees</li> <li>Spatial resolution radiometer: 98 km (inner beam), 126 km (middle beam), 164.1 km (outer beam)</li> <li>Spatial resolution scatterometer: 74.3 km (inner beam), 94.9 km (middle beam), 127.6 km (outer beam)</li> </ul> Radiometric sensitivity (noise): 0.06 K for the L band radiometer and between 0.04-0.1 dB for the Radar
Analysis characteristics	
References to technical specifications documents	
Product format	NetCDF
Data gridding	Weekly, 0.5°x0.5°
Data coverage: temporal	June 2011 – Mai 2015
Data coverage: spatial	Global
<b>Project Requirements</b>	
Date required within project	Start Phase II
Use within project	(3) Inter-comparison
Reason for selection	Accuracy
Temporal coverage required	All available data for 2011 to 2015
Data quality	





Data calibration	
Data validation	
Product limitations	
Potential product upgrades	None
<b>Data availability</b>	
Available from	APDRC
Availability time-scale	N/A
Estimates of data quantity	250 Mb
Product delivery	<a href="http://apdrc.soest.hawaii.edu/datadoc/oisss.php">http://apdrc.soest.hawaii.edu/datadoc/oisss.php</a>
Data reliability - space segment	N/A
Data reliability - ground segment	N/A
Pricing	Free
Access conditions	Free
Formal agreements with data suppliers	None
Third party redistribution.	None
<b>Miscellaneous</b>	
Comments	None

## 6.22 HYCOM

Product name	HYCOM
ID	3.22
Data type	Model: sea surface salinity
Source	NRL
Key Websites	<a href="https://hycom.org/">https://hycom.org/</a>
Version	GLBu0.08
Platform name	N/A
Platform characteristics	N/A
Sensor(s)	N/A
Sensor type	N/A
Sensor key technical characteristics	N/A
Analysis characteristics	N/A
References to technical specifications documents	
Product format	NetCDF
Data gridding	Daily, 1/12°x1/12°
Data coverage: temporal	Mai 2012 – Present
Data coverage: spatial	Global
<b>Project Requirements</b>	
Date required within project	Start Phase II



Use within project	(3) Inter-comparison
Reason for selection	Accuracy
Temporal coverage required	All available data for 2012 to present
<b>Data quality</b>	
Data calibration	
Data validation	
Product limitations	
Potential product upgrades	yes
<b>Data availability</b>	
Available from	HYCOM
Availability time-scale	Near real time
Estimates of data quantity	10 Gb/year
Product delivery	<a href="https://hycom.org/dataserver/gofs-3pt0/analysis">https://hycom.org/dataserver/gofs-3pt0/analysis</a>
Data reliability - space segment	N/A
Data reliability - ground segment	N/A
Pricing	Free
Access conditions	Free
Formal agreements with data suppliers	None
Third party redistribution.	None
<b>Miscellaneous</b>	
Comments	None

## 6.23 ECCO

Product name	ECCO
ID	3.23
Data type	Model: sea surface salinity
Source	ECCO consortium
Key Websites	<a href="http://www.ecco-group.org/products.htm">http://www.ecco-group.org/products.htm</a>
Version	V4r3
Platform name	N/A
Platform characteristics	N/A
Sensor(s)	N/A
Sensor type	N/A
Sensor key technical characteristics	N/A
Analysis characteristics	N/A
References to technical specifications documents	
Product format	NetCDF
Data gridding	Monthly, 0.5°x0.5°



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Data coverage: temporal	Jan 2010 – Dec 2015
Data coverage: spatial	Global
<b>Project Requirements</b>	
Date required within project	Start Phase II
Use within project	(3) Inter-comparison
Reason for selection	
Temporal coverage required	All available data for 2010 to present
<b>Data quality</b>	
Data calibration	
Data validation	
Product limitations	
Potential product upgrades	yes
<b>Data availability</b>	
Available from	ECCO consortium
Availability time-scale	Delay time
Estimates of data quantity	12 Gb
Product delivery	<a href="ftp://ecco.jpl.nasa.gov/Version4/Release3/interp_monthly/SALT/">ftp://ecco.jpl.nasa.gov/Version4/Release3/interp_monthly/SALT/</a>
Data reliability - space segment	N/A
Data reliability - ground segment	N/A
Pricing	Free
Access conditions	Free
Formal agreements with data suppliers	None
Third party redistribution.	None
<b>Miscellaneous</b>	
Comments	None

## 6.24 MERCATOR

Product name	MERCATOR
ID	3.24
Data type	Model: sea surface salinity
Source	CMEMS
Key Websites	<a href="http://marine.copernicus.eu/services-portfolio/access-to-products/?option=com_csw&amp;view=details&amp;product_id=GLOBAL_ANALYSIS_FORECAST_PHY_001_024">http://marine.copernicus.eu/services-portfolio/access-to-products/?option=com_csw&amp;view=details&amp;product_id=GLOBAL_ANALYSIS_FORECAST_PHY_001_024</a>
Version	001_024
Platform name	N/A
Platform characteristics	N/A
Sensor(s)	N/A
Sensor type	N/A
Sensor key technical characteristics	N/A



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<b>Analysis characteristics</b>	N/A
<b>References to technical specifications documents</b>	
<b>Product format</b>	NetCDF
<b>Data gridding</b>	Daily, 1/12°x1/12°
<b>Data coverage: temporal</b>	Jan 2010 to present
<b>Data coverage: spatial</b>	Global
<b>Project Requirements</b>	
<b>Date required within project</b>	Start Phase II
<b>Use within project</b>	(3) Inter-comparison
<b>Reason for selection</b>	
<b>Temporal coverage required</b>	All available data for 2010 to present
<b>Data quality</b>	
<b>Data calibration</b>	
<b>Data validation</b>	
<b>Product limitations</b>	
<b>Potential product upgrades</b>	None
<b>Data availability</b>	
<b>Available from</b>	CMEMS
<b>Availability time-scale</b>	Real time
<b>Estimates of data quantity</b>	6.1 Gb/year
<b>Product delivery</b>	<a href="http://marine.copernicus.eu/services-portfolio/access-to-products/?option=com_csw&amp;view=details&amp;product_id=GLOBAL_ANALYSIS_FORE_CAST_PHY_001_024">http://marine.copernicus.eu/services-portfolio/access-to-products/?option=com_csw&amp;view=details&amp;product_id=GLOBAL_ANALYSIS_FORE_CAST_PHY_001_024</a>
<b>Data reliability - space segment</b>	N/A
<b>Data reliability - ground segment</b>	N/A
<b>Pricing</b>	Free
<b>Access conditions</b>	User registration
<b>Formal agreements with data suppliers</b>	None
<b>Third party redistribution.</b>	None
<b>Miscellaneous</b>	
<b>Comments</b>	None



## 7 Auxiliary data

### 7.1 SST products

<b>Product name</b>	
<b>ID</b>	
<b>Data type</b>	
<b>Source</b>	
<b>Key Websites</b>	
<b>Version</b>	
<b>Platform name</b>	
<b>Platform characteristics</b>	
<b>Sensor(s)</b>	
<b>Sensor type</b>	
<b>Sensor key technical characteristics</b>	
<b>Analysis characteristics</b>	
<b>References to technical specifications documents</b>	
<b>Product format</b>	
<b>Data gridding</b>	
<b>Data coverage: temporal</b>	
<b>Data coverage: spatial</b>	
<b>Project Requirements</b>	
<b>Date required within project</b>	
<b>Use within project</b>	
<b>Reason for selection</b>	
<b>Temporal coverage required</b>	
<b>Data quality</b>	
<b>Data calibration</b>	
<b>Data validation</b>	
<b>Product limitations</b>	
<b>Potential product upgrades</b>	
<b>Data availability</b>	
<b>Available from</b>	
<b>Availability time-scale</b>	
<b>Estimates of data quantity</b>	
<b>Product delivery</b>	
<b>Data reliability - space segment</b>	
<b>Data reliability - ground segment</b>	
<b>Pricing</b>	
<b>Access conditions</b>	



Formal agreements with data suppliers	
Third party redistribution.	
Miscellaneous	
Comments	

## 7.2 Surface Wind vector products

Product name	
ID	
Data type	
Source	
Key Websites	
Version	
Platform name	
Platform characteristics	
Sensor(s)	
Sensor type	
Sensor key technical characteristics	
Analysis characteristics	
References to technical specifications documents	
Product format	
Data gridding	
Data coverage: temporal	
Data coverage: spatial	
<b>Project Requirements</b>	
Date required within project	
Use within project	
Reason for selection	
Temporal coverage required	
<b>Data quality</b>	
Data calibration	
Data validation	
Product limitations	
Potential product upgrades	
<b>Data availability</b>	
Available from	
Availability time-scale	
Estimates of data quantity	
Product delivery	
Data reliability - space segment	



Data reliability - ground segment	
Pricing	
Access conditions	
Formal agreements with data suppliers	
Third party redistribution.	
Miscellaneous	
Comments	

### 7.3 Atmospheric data (cloud liquid, vapor, rain, temperature)

Product name	
ID	
Data type	
Source	
Key Websites	
Version	
Platform name	
Platform characteristics	
Sensor(s)	
Sensor type	
Sensor key technical characteristics	
Analysis characteristics	
References to technical specifications documents	
Product format	
Data gridding	
Data coverage: temporal	
Data coverage: spatial	
<b>Project Requirements</b>	
Date required within project	
Use within project	
Reason for selection	
Temporal coverage required	
<b>Data quality</b>	
Data calibration	
Data validation	
Product limitations	
Potential product upgrades	
<b>Data availability</b>	
Available from	
Availability time-scale	



Estimates of data quantity	
Product delivery	
Data reliability - space segment	
Data reliability - ground segment	
Pricing	
Access conditions	
Formal agreements with data suppliers	
Third party redistribution.	
<b>Miscellaneous</b>	
Comments	

## 7.4 Sea state product

Product name	
ID	
Data type	
Source	
Key Websites	
Version	
Platform name	
Platform characteristics	
Sensor(s)	
Sensor type	
Sensor key technical characteristics	
Analysis characteristics	
References to technical specifications documents	
Product format	
Data gridding	
Data coverage: temporal	
Data coverage: spatial	
<b>Project Requirements</b>	
Date required within project	
Use within project	
Reason for selection	
Temporal coverage required	
<b>Data quality</b>	
Data calibration	
Data validation	
Product limitations	
Potential product upgrades	





<b>Data availability</b>	
Available from	
Availability time-scale	
Estimates of data quantity	
Product delivery	
Data reliability - space segment	
Data reliability - ground segment	
Pricing	
Access conditions	
Formal agreements with data suppliers	
Third party redistribution.	
<b>Miscellaneous</b>	
Comments	

## 7.5 L-band Sky map

Product name	
ID	
Data type	
Source	
Key Websites	
Version	
Platform name	
Platform characteristics	
Sensor(s)	
Sensor type	
Sensor key technical characteristics	
Analysis characteristics	
References to technical specifications documents	
Product format	
Data gridding	
Data coverage: temporal	
Data coverage: spatial	
<b>Project Requirements</b>	
Date required within project	
Use within project	
Reason for selection	
Temporal coverage required	
<b>Data quality</b>	
Data calibration	



Data validation	
Product limitations	
Potential product upgrades	
<b>Data availability</b>	
Available from	
Availability time-scale	
Estimates of data quantity	
Product delivery	
Data reliability - space segment	
Data reliability - ground segment	
Pricing	
Access conditions	
Formal agreements with data suppliers	
Third party redistribution.	
<b>Miscellaneous</b>	
Comments	

## 7.6 Total Electronic content

Product name	
ID	
Data type	
Source	
Key Websites	
Version	
Platform name	
Platform characteristics	
Sensor(s)	
Sensor type	
Sensor key technical characteristics	
Analysis characteristics	
References to technical specifications documents	
Product format	
Data gridding	
Data coverage: temporal	
Data coverage: spatial	
<b>Project Requirements</b>	
Date required within project	
Use within project	
Reason for selection	



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<b>Temporal coverage required</b>	
<b>Data quality</b>	
Data calibration	
Data validation	
Product limitations	
Potential product upgrades	
<b>Data availability</b>	
Available from	
Availability time-scale	
Estimates of data quantity	
Product delivery	
Data reliability - space segment	
Data reliability - ground segment	
Pricing	
Access conditions	
Formal agreements with data suppliers	
Third party redistribution.	
<b>Miscellaneous</b>	
Comments	



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