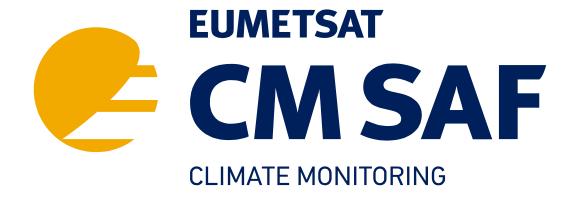
EUMETSAT Satellite Application Facility on Climate Monitoring



CDOP-3 Service Specifications

Reference Number: Issue/Revision Index: Date:

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Document Signature Table

	Name	Function	Signature	Date
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			Since 01.03.2017 the following products are discontinued: CM-114, CM-116, CM-122, CM-131, CM-137
			Included SeSp for ToA Radiation CDR (CDOP2_SG11_D2): CM-21301, CM-21321, CM-21331, CM-21351
			Included SeSp for HOAPS 4.0 CDR (CDOP3_SG1_D5): CM-12611, CM-12701, CM-12801, CM-12811, CM-12821, CM-12901, CM-12911
			Included SeSp for the SARAH-3 CDR (CDOP3_SG1_D12): CM-23082, CM-23291, CM-23282
			Included SeSp for the COMET and SUMET CDRs (CDOP3_SG1_D12): CM-23011, CM-23921, CM-23931
3.0	10/11/2017	SAF/CM/DWD/SeSp	Update according to SG feedback (CDOP3_SG2_A5): Deleted SAF Service Architectures for all Climate data records.
			Approval of SG (CDOP3_SG2_D5)



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Applicable and Reference Documents

The predominant part of the CM SAF documents are so called 'living documents' meaning they will be updated in short intervals. The most current version of the documents can be found on the CM SAF pages: http://www.cmsaf.eu.

Applicable Documents

Reference	Title	Code
AD 1	CM SAF Product Requirements Document	SAF/CM/DWD/PRD/1
AD 2	CM SAF Configuration Management Plan	SAF/CM/DWD/CMP/1
AD 3	Project and Operations Plan for CM SAF CDOP	SAF/CM/DWD/POP/1

Reference Documents

Reference	Title	Version	Code		
RD 2	Product User Manual Water Vapour and Temperature from ATOVS	2.2	SAF/CM/DWD/PUM/WVT		
RD 3	Product User Manual Clouds	1.8	SAF/CM/DWD/PUM/CLOUDS		
RD 4	Product User Manual Surface Albedo	2.4	SAF/CM/FMI/PUM/SAL		
RD.5	Product User Manual Surface Radiation	2.5	SAF/CM/DWD/PUM/SFCRAD		
RD.6	Product User Manual Top of Atmosphere Radiation	1.2	SAF/CM/DWD/PUM/TOA		
RD.7	Product User Manual Meteosat (MVIRI) Solar Surface Irradiance and effective Cloud Albedo Climate Data records	1.1	SAF/CM/DWD/PUM/MVIRI_HEL		
RD.8	Product User Manual SSM/I data record (HOAPS release 3.2)	1.1	SAF/CM/DWD/PUM/HOAPS		
RD.9	Product User Manual AVHRR GAC Cloud products Edition 1	1.2	SAF/CM/DWD/PUM/GAC/CLD		
RD.10	Product User Manual AVHRR GAC Surface Albedo Edition 1	1.2	SAF/CM/FMI/PUM/GAC/SAL		
RD.11	Product User Manual AVHRR GAC Surface Radiation Products Edition 1	1.2	SAF/CM/DWD/PUM/GAC/RAD/		
RD.12	Product User Manual Fundamental Climate Data Record of SSM/I Brightness Temperatures	1.0	SAF/CM/DWD/PUM/FCDR_SSMI/		



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Reference	Title	Version	Code
RD.13	Product User Manual: Meteosat (MVIRI) Meteosat (MVIRI) Solar Surface Irradiance and effective Cloud Albedo Data records. MVIRI_HEL	1.2	SAF/CM/DWD/PUM/MVIRI_HEL
RD 14	Product User Manual: SEVIRI cloud mask data record	1.1	SAF/CM/DWD/PUM/SEV/CLM
RD 15	Product User Manual Meteosat Solar Surface Irradiance, and effective Cloud Albedo Climate Data records	1.1	SAF/CM/DWD/PUM/METEOSAT_HE L
RD 16	Product User Manual Fundamental Climate Data Record of SSM/I / SSMIS Brightness Temperatures	1.1	SAF/CM/DWD/PUM/FCDR/SSMIS
RD 17	Product User Manual SEVIRI cloud products Edition 2 (CLAAS-2)	2.1	SAF/CM/KNMI/PUM/SEV/CLD
RD 18	Product User Manual Fundamental Climate Data Record of SMMR / SSMI / SSMIS Microwave Imager Radiances	1.1	SAF/CM/DWD/PUM/FCDR_SMMR
RD 19	Product User Manual Top of Atmosphere Radiation MVIRI/SEVIRI Data Record	1.1	SAF/CM/RMIB/PUM/MET_TOA
RD 20	Product User Manual CM SAF Cloud, Albedo, Radiation data record, AVHRR-based, Edition 2 (CLARA-A2) Cloud Products	2.2	SAF/CM/DWD/PUM/GAC/CLD
RD 21	Product User Manual CM SAF Cloud, Albedo, Radiation data record, AVHRR-based, Edition 2 (CLARA-A2) Surface Radiation Products	2.1	SAF/CM/DWD/PUM/GAC/RAD
RD 22	Product User Manual CM SAF Cloud, Albedo, Radiation data record, AVHRR-based, Edition 2 (CLARA-A2) Surface Albedo Products	2.1	SAF/CM/FMI/PUM/GAC/SAL



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Title Version Reference Code **Product User Manual** Top of Atmosphere **RD 23** 1.1 SAF/CM/RMIB/PUM/GERB/R2 Radiation SEVIRI/GERB Data Record Product User Manual SSM/I and SSMIS data record **RD 24** 1.1 SAF/CM/DWD/PUM/HOAPS/2 products HOAPS version 4.0 Product User Manual Meteosat Cloud Fractional 1.1 **RD 25** SAF/CM/MeteoSwiss/PUM/MET/CFC/ Cover Edition 1 Product User Manual Land Surface Temperature **RD 26** 1.1 SAF/CM/MeteoSwiss/PUM/MET/LST (LST) Product User Manual Meteosat Solar Surface Irradiance and effective **RD 27** Cloud Albedo Climate Data 2.1 SAF/CM/DWD/PUM/METEOSAT/HEL records The SARAH-2 climate data records



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1. Introduction

1.1. Purpose of the document

The purpose of this document is to provide specifications and detailed information on the services committed towards the users by the Climate Monitoring Satellite Application Facility (CM SAF) for the currently operational processing version during the Continuous Development and Operations Phases (CDOP, CDOP-2 and CDOP-3). This document shall be made available to users. In this document the services for products from Version 3 at the beginning of the CDOP (available since 1 July 2007) onwards are described.

This document and any later issues of the document are subject to approval by the CM SAF Steering Group (SG). Any suggestions for improvements, to be incorporated into later issues, shall be proposed to the Steering Group and shall be based on the user's feedback mechanism as described later.

1.2. Definition of Terms

The following terms are used in this document and defined below.

1.3. Uncertainty characterisation

The CM SAF applies the following accuracy concept for its data record using three different metrics:

Mean error, Precision and Stability.

These are defined as follows:

Mean error: This measure should tell how close the parameter estimation is on average to a reference observation (representing the truth). The quantity is often referred to as the bias but for some applications the mean of the absolute error is more appropriate. The definition of the truth depends on the variable and the availability of references.

Precision: This measure should tell how individual parameter estimations are distributed relative to the mean error. The quantity used is the standard deviation of the error which is equivalent to the bias-corrected RMS error.

Stability: This measure should tell whether one or several accuracy metrics are stable or if they are changing over time. The CM SAF has chosen to monitor only the first metric here (the mean error) where criteria have been defined for the maximum changes being acceptable per decade for each product.



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2. CM SAF Service Architectures

This section describes the services architectures which are used in CM SAF to either provide operationally products or to generate climate data records.

2.1. Service architecture for operational products

The service architecture of the operational centre of the CM SAF at DWD in Offenbach is shown in Figure 2.1. Processing resources at ECMWF are use to generate EDR. The Input and output services are provided at DWD.

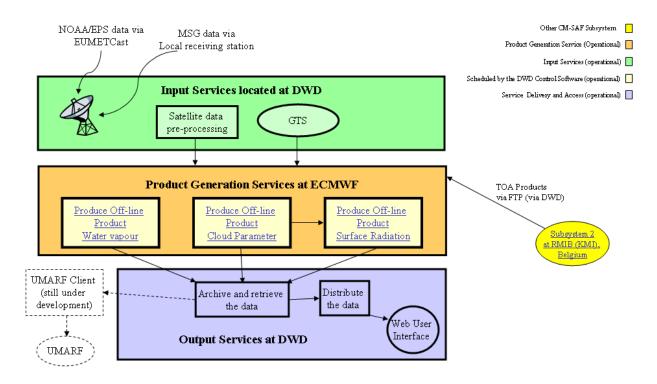


Figure 2.1: CM SAF Operational Service Architecture at DWD



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3. Products

3.1. Scope

SS-1 According to schedule, the CM SAF shall provide users with the products listed in Annex 2

3.2. Area

SS-2 The areas of these products are defined in Annex 2 (cp. Column "spatial coverage"

3.3. Product characteristics and accuracy

SS-3 The main characteristics of each product are described in the product requirement table (Annex 2). :

3.4. Product availability

The availability of each product is described in the product requirement table (Annex 2), cp. Column "Timeliness") and the EDR / ICDR product completeness shall be at least 95 % per month.

4. User Service

4.1. Operations Report

SS-5 For the CM SAF operational product, the results of availability and quality control shall be reported in a CM SAF half-yearly Operations Report

4.2. CM SAF archive

SS-6 The CM SAF products shall be archived at DWD and shall be made available to users.

4.3. Processing of requests

Requests from users for CM SAF archive products shall be processed during normal working hours. The user shall receive an answer to the request within one working day. The products shall be available to the user within 5 working days. In case of problems the user shall get a message about the delay.

4.4. User information

SS-8 The CM SAF shall provide the current status of user requests and problems to the users. The user shall receive information on the status of requests and problems during normal working hours. Information will be sent to the user within one working day.

4.5. Product distribution

The CM SAF products shall be delivered to users on common media as product files on the DWD-FTP server, CD-ROM, DVD-ROM, and email.



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SS-10 To get access to the data, a single entry point for searching and ordering of products (Web User Interface, WUI) from the CM SAF main page shall be provided.

- **SS-11** The user shall have access to the product catalogue to check the availability of the products. Additionally, example images of the products shall be provided.
- **SS-12** The user shall be able to place orders and to get status information of already placed orders.
- **SS-13** The registration and login of the user shall be mandatory to order CM SAF products.
- **SS-14** The user shall get a confirmation of the committed order via e-mail and shall receive another e-mail once the data have been prepared.

4.6. Training Workshop

SS-15 The CM SAF shall prepare and perform 'CM SAF User and Training Workshops'.

4.7. Help Desk and User Problem Reports

The Help Desk User Support shall be based on a dedicated CM SAF web site, which will act as the single entry point for the web users interface (WUI). When ordering products the users will gain access by means of a password. The Help Desk intends to provide information and services to CM SAF users, as well as to support the gathering of the feedback from users needed to improve the CM SAF services. Therefore, a template for a user's problem report (UPR) shall be available on the web site in order for a user to depict the problems he/she has with the CM SAF products, CM SAF operation or suggestions for improvements of the CM SAF system. The user shall receive a feedback on any problem that he/she has reported. He/she shall receive an answer to the request within one working day.

4.8. Help Desk full availability

The CM SAF shall provide sufficient manpower for ensuring a full availability of the Help Desk, based on working hours, five days a week service. Besides email the CM SAF Help Desk shall be accessible via mail and telephone.

4.9. Availability of CM SAF web page

SS-18 The central CM SAF WWW site shall be an operational element of the CM SAF, with a maximum of one interruption per week and with an interruption time of one working day as a maximum.

4.10. Provision of User Service

User services shall be provided through the CM SAF homepage www.cmsaf.eu. The user service shall include information and documentation about the CM SAF and the CM SAF products, information on how to contact the user help desk and shall allow to search the product catalogue and to order products.

4.11. Mail Box and FAQ List

- **SS-20** The CM SAF shall provide the following mail box and FAQ (Frequently Asked Questions) list facility:
 - Email-Box to the CM SAF users, to solve minor problems or to collect user's



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questions and requirement proposals (contact.cmsaf@dwd.de).

- Regularly updated FAQ list covering all aspects related to the CM SAF: access to products, products quality, performance, etc.

Date:

4.12. Functions of the central CM SAF WWW site

SS-21 The central CM SAF WWW site for the CM SAF shall provide the following functions:

General information:

- > CM SAF overview
- Product description and examples
- Links to production centres web sites, information on the quality of the products and quick looks, and relevant scientific information
- News: general announcement (product modifications, next seminars and workshops, Visiting Scientists activities, etc.), a form for the UPR (User's Problem Report)
- Links to other web sites (Meteorological Institutes, EUMETSAT, etc.)
- **Web User Interface** (WUI) which allows the user access to the products via an identification procedure
- Help desk service, contact and Frequently Asked Questions (FAQs)
- **Service messages:** operational information (product unavailability, detected or expected anomalies, warnings etc.)
- Log of changes
- CM SAF documents and reports

4.13. Access rights

SS-22 The above central CM SAF WWW site services shall be accessible to the general public. The access to CM SAF products entails detailed user registration

4.14. News and other topics

- SS-23 On its web pages the CM SAF shall provide to the users news and other topics on SAF on Climate Monitoring based on the following services
 - General Information on the CM SAF
 - Hot Topics
 - Log of Changes
 - Advertising of VS Activities
 - Any additional services giving information on climate aspects
 - UPR template

4.15. Documentation Access

- **SS-24** The CM SAF shall provide a documentation access capability to view and download the following material:
 - CM SAF product user manuals (PUM)
 - CM SAF Algorithm Theoretical Basis Document (ATBD)
 - CM SAF Validation Reports
 - CM SAF Operations Reports (Ors)
 - Download facility for other documentation relevant to users of the CM SAF products;
 - Download training material of workshops
 - SPR and SMR history



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4.16. Scientific Developments

SS-25 On its web pages the CM SAF shall provide information on the scientific developments (e.g., papers published of CM SAF science team)

4.17. User Service quality monitoring

SS-26 The CM SAF shall continuously monitor the quality of the User Service in order to enable continuous improvements. The following parameters shall be taken into consideration:

- Problems reported by users and related to the User Service,
- Compliance in solving or replying to user's problems in requested time,
- Any potential useful metric value provided by the Leading Entity.

5. List of TBDs and TBCs

None



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6. References

Kato, S., Ackerman, T., Mather, J., Clothiaux, E., 1999. The k-distribution method and correlated-k approximation for a short-wave radiative transfer. J. Quant. Spectrosc. Radiat. Transfer 62.



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Annex 1 Acronyms and abbreviations

AVHRR Advanced Very High Resolution Radiometer

CM SAF EUMETSAT Satellite Application Facility on Climate Monitoring

CDOP Continuous Development and operational phase

CDR Climate Data Records

CLARA CM SAF cLoud, Albedo & RAdiation dataset - AVHRR-based

DWD Deutscher Wetterdienst EDR Environmental Data Record

FCDR Fundamental Climate Data Record

GAC Global Area Coverage

HOAPS Hamburg Ocean Atmosphere Parameter Set

LE Leading Entity

MSG Meteosat Second Generation
MVIRI Meteosat Visible and IR imager
NCR Non-Conformance Report
PUM Product User Manual

PRD Product Requirements Document

RMIB Royal Meteorological Institute of Belgium

SG Steering Group SS Service Specification

SSM/I Special Sensor Microwave Imager

TBC To Be Confirmed
TBD To be done/defined
UPR User's Problem Report

VS Visiting Scientist



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Annex 2 Service Specification Tables

The table entries under "Accuracy" represent the uncertainty of the products when compared to another similar product deduced from ground-based or satellite observations. They are determined with respect to previous validation results to high quality comparison data. As the comparison data used for quality monitoring in Operational Reviews must fulfill also temporal and spatial coverage requirements the comparison data are not necessarily of a very high accuracy. Thus, for most of the products the given uncertainty is between the threshold and target accuracies defined in the Product Requirements Document [AD 1].

CM-02 Fractional Cloud Cover CFC_SEVI							
Туре	Product	Product					
Applications and use	ers						
Characteristics and I	Method	S	Daily Mean, M	Monthly Mean,	Month	ly Mean Diurnal Cycle	
Comments			% cloud amo	The accuracy is defined as the mean error (i.e., defined in % cloud amount units) and precision is defined as the biascorrected RMS error.			
Generation frequence	у		1 day, 1 mon	th			
Input satellite data			SEVIRI				
	Dissemination						
Format			Means			Type	
HDF5		FTP, 0	CD-ROM, Email offline				
			Accur	асу			
±10% (cloud amount units) ±15% over oceanic and tropical (±15° N and S) regions For viewing angles > 70° accuracy will be lower.							
Verification method			arisons to SYNOP data (results computed as areal means ne studied area)				
		Cover	age, resolutio	n and timelin	ess		
Spatial coverage	Spatia	l resolu	ıtion	Vertical resolu	ution	Timeliness	
Meteosat disk	(15 km	n) ²				2 month	

CM-03 Fractional Cloud Cover CFC_AVHRR_Euro							
Туре	Product						
Applications and us	sers						
Characteristics and	Meth	ods	Daily Mean,	Monthly Mea	an		
Comments			The accuracy is defined as the mean error (i.e., defined in % cloud amount units) and precision is defined as the biascorrected RMS error.				
Generation frequer	псу		1 day, 1 mo	nth			
Input satellite data			AVHRR				
			Diss	semination			
Format			Means	Type			
HDF5		FTP,	CD-ROM, En	-ROM, Email offline			
			Α	ccuracy			
±10% (cloud amou ±15% over oceanic For viewing angles	and t	rópica					
Verification method	d		parisons to MODIS data (results computed as areal means over udied area)				
Coverage, resolution and timeliness							
Spatial coverage Spatial resol		lution	Vertical resolution		Timeliness		
Europe	(15 km) ²					2 month	



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CM-04	Fracti	onal C	Cloud Cover			CFC_AVHRR_Arctic	
Type Product			Product				
Applications a	and us	ers	* Climate I * NMHSs	Research			
Characteristic Methods	s and		Daily Mear Monthly Me				
Comments			The accuracy is defined as the mean error (i.e., defined in % cloud amount units) and precision is defined as the bias-corrected RMS error.				
Generation fr	equen	icy	1 day, 1 m	onth			
Input satellite	data		AVHRR				
			Di	sseminati	or	n	
Format			Means	Means Type			
HDF5		FTP,	CD-ROM, E	mail	offline		
				Accuracy			
±30% (absolute))						
Verification method	istency chec sets	cks against emented w	M	YNOP but complemented with IODIS and Cloudsat/CALIPSO h comparison to ARM site data and			
	Coverage, resolution and timeliness						
Spatial coverage	Spatial resolution		Vertical resolution		Timeliness		
Arctic	(15 km) ²					2 month	
	'						

CM-08	Cloud	Туре				CTY_SEVIRI	
Туре			Product				
Applications and users							
Characteristics and	Method	ls	Daily Mean, I	Monthly Mean,	Month	nly Mean Diurnal Cycle	
Comments			% cloud amo	The Accuracy is defined as the Mean error (i.e., defined in % cloud amount units – where CTY is given as the contribution to CFC) and precision is defined as the Biascorrected RMS error.			
Generation frequency			1 day, 1 mon	th			
Input satellite data			SEVIRI				
Dissemination							
Format	Format			1	Туре		
HDF5		FTP, 0	CD-ROM, Ema	ail	offline		
			Accu	racy			
±30% bias (cloud ar For viewing angles >							
Verification method			arisons to MODIS data (results computed as areal means ne studied area)				
		Cove	rage, resoluti	on and timeli	ness		
Spatial coverage	Spatia	l resolu	ution	Vertical resol	ution	Timeliness	
Meteosat disk	(15 km) ²					Product discontinued on 01.03.2012 Products are only available until 28.02.2012	



Service Specifications

CM-09	Cloud	І Туре	, , , , , , , , , , , , , , , , , , , 			CTY_AVHRR_Europe		
Туре			Product	Product				
Applications and u	sers							
Characteristics and	d Meth	ods	Daily Mean,	Monthly Mea	an			
Comments			cloud amou	The Accuracy is defined as the Mean error (i.e., defined in % cloud amount units – where CTY is given as the contribution to CFC) and precision is defined as the Bias-corrected RMS error.				
Generation frequency			1 day, 1 mo	nth				
Input satellite data			AVHRR					
			Diss	Dissemination				
Format			Means	;		Туре		
HDF5		FTP,	CD-ROM, Er	mail offline				
			Α	ccuracy				
±30% bias (cloud a For viewing angles				-	ups.			
Verification metho	d		parisons to Mudied area)	arisons to MODIS data (results computed as areal means over udied area)				
		Co	verage, resc	lution and t	imelin	ess		
Spatial coverage	Spatia	Spatial resolution		Vertical resolution		Timeliness		
Europe	(15 km) ²					Product discontinued on 01.03.2012 Products are only available until 28.02.2012		

CM-10	Cloud	d Туре				CTY_AVHRR_Arctic		
Туре			Product					
Applications a	and user	'S	* Climate Research * NMHSs					
Characteristic Methods	s and		Daily Mean Monthly Mean					
Comments			in % cloud contribution	The Accuracy is defined as the Mean error (i.e., defined in % cloud amount units – where CTY is given as the contribution to CFC) and precision is defined as the Bias-corrected RMS error.				
Generation frequency			1 day, 1 month					
Input satellite data			AVHRR					
			Dis	seminatio	n			
Format	t		Means			Туре		
HDF5		FTP,	CD-ROM, E	mail	offline			
			A	Accuracy				
±30% (absolute)							
Verification m	ethod							
		Cove	erage, reso	olution and	d tim	eliness		
Spatial coverage	Spat	ial res	solution	Vertical resolution		Timeliness		
Arctic	(15 k	km)²				Product discontinued on 01.03.2012 Products are only available until 28.02.2012		



Service Specifications

CM-14	Cloud	Тор				CTO_SEVIRI		
Туре			Product					
Applications and use	ers							
Characteristics and Methods			Cycle for: Clo		erature	nthly Mean Diurnal (CTT) Cloud Top Height		
Comments				is defined as Bias-correcte		an error and precision is error.		
Generation frequency			1 day, 1 mon	th				
Input satellite data			SEVIRI					
			Dissemi	nation				
Format			Means			Type		
HDF5		FTP, 0	CD-ROM, Ema	il offline				
			Accur	асу				
CTP: ±190 hPa (bias same information in			requirement se	et for CTT and	CTH a	s they represent the		
Verification method			arisons to MODIS data (results computed as areal means he studied area)					
		Cover	age, resolution	on and timelin	ess			
Spatial coverage	Spatia	l resolu	ution	Vertical resolution		Timeliness		
Meteosat disk	(15 km	n) ²		_		2 month		

CM-15	Cloud	Тор		•		CTO_AVHRR_Europe		
Туре			Product					
Applications and users								
Characteristics and Methods				Daily Mean and Monthly Mean for: Cloud Top Temperature (CTT) Cloud Top Height (CTH) Cloud Top Pressure (CTP)				
Comments								
Generation frequen	ncy		1 day, 1 mo	nth				
Input satellite data			AVHRR	AVHRR				
Dissemination								
Format			Means	;	Туре			
HDF5		FTP,	CD-ROM, En	nail	offline	offline		
			Α	ccuracy				
CTP: ± 100 hPa (b same information i				ent set for CT	T and	CTH as they represent the		
Verification method	d		parisons to MODIS data (results computed as areal means over udied area)					
		Co	verage, resc	olution and t	imelin	ess		
Spatial coverage	Spatial resolutio		lution	Vertical resolution		Timeliness		
Europe	(15 kr	n) ²	•			2 month		



Service Specifications

CM-16			•	CTO_AVHRR_Arctic			
Туре			Product				
Applications and users			* Climate * NMHSs	Research			
Characteristics and Methods			Cloud Top Cloud Top	Contains: Daily Mean and Monthly Mean for: Cloud Top Temperature (CTT) Cloud Top Height (CTH) Cloud Top Pressure (CTP)			
Comments						the Mean error and precision ected RMS error.	
Generation frequency			1 day, 1 month				
Input satellite data			AVHRR	AVHRR			
			Dis	seminatio	n		
Format			Means	S	Type		
HDF5		FTP,	CD-ROM, Email		offline		
			-	Accuracy			
CTP ±100 hPa.No information in diffe			uirement set	for CTT and	CTH a	as they represent the same	
Verification met	hod			parisons to MODIS data (results computed as areal as over the studied area)			
Coverage, resolution and timeliness							
Spatial coverage	Spat	ial res	solution	Vertical resolution		Timeliness	
Arctic	(15 k	cm) ²				2 month	

CM-32	Cloud	Optica	al Thickness			COT_SEVIRI	
Туре			Product				
Applications and users			* Climate Research * NMHSs * Government agencies				
Characteristics and	Method	ds	Daily Mean, I	Monthly Mean,	Month	nly Mean Diurnal Cycle	
Comments						for the Meteosat disk omparative datasets.	
Generation frequency			1 day, 1 mon	th			
Input satellite data			SEVIRI				
Dissemination							
Format	Format			1		Type	
HDF5		FTP, 0	CD-ROM, Ema	ail	offline		
			Accu	racy			
bias: 40% rms: 70%							
Verification method		Comp	arisons to MODIS data				
		Cove	rage, resoluti	on and timeli	ness		
Spatial coverage	Spatia	ıl resolu	ution	Vertical resol	ution	Timeliness	
Meteosat disk	(15 km	n) ²				Product discontinued on 01.03.2012 Products are only available until 28.02.2012	



Service Specifications

CM-33	Cloud	Optio	al Thicknes	s		COT_AVHRR_Europe		
Туре			Product	Product				
Applications and users			* Climate I * NMHSs * Governm	Research nent agencie	es			
Characteristics and	d Meth	ods	Daily Mean,	Monthly Mea	an			
Comments						ed for the baseline area as omparative datasets.		
Generation frequency			1 day, 1 month					
Input satellite data			AVHRR					
			Diss	semination				
Format			Means			Туре		
HDF5		FTP,	CD-ROM, Er	nail	offline	ffline		
			Α	ccuracy				
bias: 40% rms: 70%								
Verification metho	d	Comp	parisons to MODIS data					
Coverage, resolution and timeliness								
Spatial coverage	Spatia	al resolution		Vertical resolution		Timeliness		
Europe	(15 kr	n) ²				2 month		

CM-36	Cloud	Phase				CPH_SEVIRI		
Туре			Product	Product				
Applications and users			* Climate Research * NMHSs * Government agencies					
Characteristics and	Method	ds	Daily Mean, I	Monthly Mean,	, Month	nly Mean Diurnal Cycle		
Comments			as absolute	The bias and rms are defined for the Meteosat disk as absolute difference (of water cloud fraction) to the comparative datasets.				
Generation frequency			1 day, 1 mon	th				
Input satellite data			SEVIRI					
			Dissem	ination				
Format			Means		Туре			
HDF5		FTP, 0	CD-ROM, Ema	ail	offline			
			Accu	Accuracy				
bias: 0.1 rms: 0.2								
Verification method		Comp	arisons to MO	arisons to MODIS data				
		Cove	rage, resoluti	on and timeli	ness			
Spatial coverage	Spatia	ıl resolu	ution	Vertical resol	ution	Timeliness		
Meteosat disk	(15 km	n) ²				Product discontinued on 01.03.2012 Products are only available until 28.02.2012		



Service Specifications

CM-37	Cloud	Phas	е			CPH_AVHRR_Europe		
Туре			Product	Product				
Applications and u	isers		* Climate * NMHSs * Governm	Research nent agenci	es			
Characteristics an	d Meth	ods	Daily Mean,	Monthly Me	an			
Comments			absolute d	The bias and rms are defined for the baseline area as absolute difference (of water cloud fraction) to the comparative datasets.				
Generation frequency			1 day, 1 month					
Input satellite data	l		AVHRR					
			Dis	semination				
Format			Means	;	Type			
HDF5		FTP,	CD-ROM, Email off			ffline		
			A	ccuracy	-			
bias: 0.1 rms: 0.2								
Verification method Comp			parisons to MODIS data					
	Coverage, resolution and timeliness							
Spatial coverage	Spatia	patial resolution		Vertical resolution		Timeliness		
Europe	(15 kr	n) ²				2 month		

CM-41	Liquid	Water	Path			LWP_SEVIRI	
Туре			Product				
Applications and users			* Climate Research * NMHSs * Government agencies				
Characteristics and	Method	ls	Daily Mean, I	Monthly Mean,	Month	nly Mean Diurnal Cycle	
Comments						for the Meteosat disk omparative datasets.	
Generation frequency			1 day, 1 mon	th			
Input satellite data			SEVIRI				
			Dissem	ination			
Format			Means	1	Туре		
HDF5		FTP, 0	CD-ROM, Ema	ail	offline		
		Ë	Accu	racy			
bias: 40% rms: 70%							
Verification method		Comp	arisons to MODIS data				
		Cove	rage, resoluti	on and timeli	ness		
Spatial coverage	Spatia	ıl resolu	ıtion	Vertical resol	ution	Timeliness	
Meteosat disk	(15 km	n) ²				Product discontinued on 01.03.2012 Products are only available until 28.02.2012	



Service Specifications

CM-42	Liquid	d Wate	er Path			LWP_AVHRR_Europe	
Туре			Product				
Applications and users			* NMHSs	* Climate Research * NMHSs * Government agencies			
Characteristics and	d Meth	ods	Daily Mean,	Monthly Mea	an		
Comments						ed for the baseline area as omparative datasets.	
Generation frequency			1 day, 1 month				
Input satellite data			AVHRR				
			Dis	semination			
Format			Means			Туре	
HDF5		FTP,	CD-ROM, Er	mail	nail offline		
			Α	ccuracy			
bias: 40% rms: 70%							
Verification method	d	Comp	parisons to M	ODIS data			
	Coverage, resolution and timeliness						
Spatial coverage	Spatia	al resolution		Vertical resolution		Timeliness	
Europe	(15 kr	n) ²				2 month	

CM-49 S	Surfac	e incomi	ng shortwa	ve radiation		SIS_SEVIRI	
Туре		Р	roduct				
Applications and users	S						
Characteristics and Mo	ethods	D D	Daily Mean, Monthly Mean, Monthly Mean Diurnal Cycle				
Comments							
Generation frequency			day, 1 mont	h			
Input satellite data SEVIRI/GERB							
		*	Dissemir	nation			
Format		Means Type			Type		
HDF5		FTP, CD	P, CD-ROM, Email offline				
			Accura	асу			
90 per cent of absolute measurements) for mo Bias of 20 W/m² for da regions, e.g. due to ur	onthly aily me	means. eans. High	ner bias valu	es occur in the	_	ound based and other mountainous	
Verification method		comparis	arison with in-situ measurements				
		Coverag	e, resolutio	n and timeline	ess		
Spatial coverage	Spatia	l resolutio	on	Vertical resolu	ution	Timeliness	
Meteosat disk ((15 km	1) ²				2 month	



Service Specifications

CM-50	Surfac	ce inc	oming short	wave radiati	on	SIS_AVHRR_Europe		
Туре			Product					
Applications and us	sers							
Characteristics and	d Meth	ods	Daily Mean,	Monthly Mea	ın			
Comments				due to the lower resolution in space-time, the daily means have a lower accuracy than the MSG based product				
Generation frequer	псу		1 day, 1 moi	1 day, 1 month				
Input satellite data			AVHRR					
			Diss	emination				
Format			Means			Туре		
HDF5		FTP,	CD-ROM, En	nail	offline)		
			Ad	ccuracy				
90 per cent of absormeasurements) for Bias of 20 W/m² for regions, e.g. due to	month daily	nly me means	ans. s. Higher bias	values occu	r in the	y of ground based e Alpine and other mountainous		
Verification method	ł	comp	arison with in	arison with in-situ measurements				
		Co	verage, reso	lution and ti	meline	ess		
Spatial coverage	Spatia	al reso	lution	Vertical reso	lution	Timeliness		
Europe	(15 kr	n) ²				2 month		

CM-51	Surfac	e inco	ming shortwa	ave radiation		SIS_merged	
Туре			Product				
Applications and use	ers						
Characteristics and	Method	ds	Merged product Monthly Mean				
Comments							
Generation frequence	СУ		1 month	1 month			
Input satellite data			SEVIRI/GER	B, AVHRR			
			Dissem	ination			
Format			Means			Type	
HDF5		FTP, 0	CD-ROM, Ema	ail	offline		
			Accu	racy			
10 W/m² monthly me	ean, foi	details	s see compone	ents			
Verification method		compa	arison with in-	situ measurem	ents		
		Cove	rage, resoluti	on and timeli	ness		
Spatial coverage	Spatia	ıl resolu	ution	Vertical resol	ution	Timeliness	
Meteosat disk and Northern Europe	(15 kn	n) ²				Product discontinued on 01.03.2012 Products are only available until 28.02.2012	



Service Specifications

CM-56	Surfac	e Albe	do			SAL_SEVIR		
Туре			Product					
Applications and us	ers							
Characteristics and	Method	ls	Weekly Mear	n, Monthly Mea	an			
Comments								
Generation frequen	су		1 week, 1 mc	1 week, 1 month				
Input satellite data			SEVIRI					
			Dissem	ination				
Format			Means		Туре			
HDF5		FTP, CD-ROM, Email offI			offline			
			Accu	racy				
25% (relative). High	er devi	ations i	n desert regio	ns are expecte	ed.			
Verification method		campa missin attemp	inuous validation at mast measurement sites & field paigns. Comparisons over Africa are very limited due to ing mast data. Comparisons to other satellite data are npted. It is expected that the quality of SAL is not reduced pt in desert regions.					
		Cove	rage, resoluti	on and timeli	ness			
Spatial coverage	Spatia	ıl resolu	ution	Vertical resol	ution	Timeliness		
Meteosat disk	(15 km	n) ²				Product discontinued on 01.03.2012 Products are only available until 28.02.2012		

CM-57	Surfa	ce Alb	edo		•	SAL_AVHRR_Europe		
Туре			Product					
Applications and u	sers							
Characteristics and Methods			Weekly Mea	Weekly Mean, Monthly Mean				
Comments								
Generation freque	ncy		1 week, 1 m	week, 1 month				
Input satellite data			AVHRR					
Dissemination								
Format			Means			Туре		
HDF5		FTP,	CD-ROM, Er	nail	offline			
		•	Α	ccuracy	•			
25% (relative). Hig	her de	viation	s in desert re	egions are ex	pected	I.		
Verification method	d	Conti	nuous validat	ous validation at mast measurement sites & field campaigns				
		Co	verage, resc	lution and ti	imelin	ess		
Spatial coverage	Spatia	al reso	lution	Vertical resolution		Timeliness		
Europe	(15 kr	n) ²				2 month		



Service Specifications

CM-58	Surfac	e Albe	edo			SA	L_merged	
Туре			Product					
Applications and use	ers							
Characteristics and	Method	ds	Merged Prod	uct, Monthly N	/lean			
Comments								
Generation frequence	СУ		1 month	1 month				
Input satellite data	nput satellite data			SEVIRI, AVHRR				
			Dissem	ination				
Format			Means			Type		
HDF5		FTP, (CD-ROM, Ema	ail	Offline			
			Accu	racy				
25% (relative). High	er devi	ations i	n desert regio	ns are expecte	ed.			
Verification method			nuous validation			ent sites & field d CM-56.		
		Cove	rage, resoluti	on and timeli	ness			
Spatial coverage	Spatia	ıl resolu	ution	Vertical resol	ution	Timeliness		
Meteosat disk, Northern Europe	(15 km	n) ²				Product disco on 01.03.2012 Products are available until 28.02.2012	only	

CM-59	Surfa	ce Alb	edo			SAL_AVHRR_Arctic		
Туре			Product					
Applications and	l user	S	* Climate * NMHSs * Governn	Research	es			
Characteristics a Methods	and			eekly Mean onthly Mean				
Comments			Per definit Septembe		rodu	ct only available from April to		
Generation frequency			1 week, 1 month					
Input satellite d	ata		AVHRR	AVHRR				
			Dis	seminatio	n			
Format			Means			Type		
HDF5		FTP,	, CD-ROM, Email offli			ne		
			P	ccuracy				
25 % (relative)								
Verification met	hod		nuous validation at mast measurement sites & field paigns					
		Cove	rage, resc	olution and	d tim	eliness		
Spatial coverage	Spat	Spatial resolution		Vertical resolution		Timeliness		
Arctic	(15 k	(m) ²				2 month		



Service Specifications

CM-64	Surfac	e Net	Shortwave Ra	adiation			SNS_SEVIR	
Туре	-		Product					
Applications and us	sers							
Characteristics and	Method	ds	Daily Mean, Monthly Mean, Monthly Mean Diurnal Cycle					
Comments								
Generation frequer	псу		1 day, 1 mon	1 day, 1 month				
Input satellite data			SEVIRI/GER	В				
			Dissem	ination				
Format	Format			•	Type			
HDF5		FTP, (CD-ROM, Ema	ail	offline	1		
		<u>.</u>	Accu	racy	<u>.</u>			
15 W/m² 25 W/m² 0	daily me	an, see	components	for details				
Verification method	ı	calcula	ated based on	accuracy of S	SAL and	d SIS		
		Cove	rage, resoluti	on and timeli	ness			
Spatial coverage	Spatia	al resolu	ution	Vertical resol	ution	Timeliness		
Meteosat disk	(15 kn	n) ²			Product discont on 01.03.2012 Products are on available until 28.02.2012			

CM-65	Surfa	ce Net	Shortwave	Radiation		SNS_AVHRR_Europe			
Туре	<u>-</u>		Product						
Applications and u	sers								
Characteristics and Methods			Daily Mean,	Daily Mean, Monthly Mean					
Comments									
Generation frequency			1 day, 1 mo	nth					
Input satellite data			AVHRR						
Dissemination									
Format			Means			Туре			
HDF5		FTP,	CD-ROM, Er	nail	offline				
			Α	ccuracy	<u> </u>				
15 W/m ² 30 W/m ²	daily m	nean, s	see compone	nts for details	S				
Verification method	d	calcul	ated based o	I based on accuracy of SAL and SIS					
		Co	verage, resc	lution and t	imelin	ess			
Spatial coverage	Spatia	al reso	lution	Vertical resolution		Timeliness			
Europe	(15 kr	n) ²				2 month			



Service Specifications

CM-66	Surfac	e Net S	Shortwave Ra	adiation		SNS_merged	
Туре			Product				
Applications and us	ers						
Characteristics and	Method	ds	Merged product Monthly Mean				
Comments							
Generation frequer	су		1 month				
Input satellite data			SEVIRI, AVHRR				
			Dissem	ination			
Format			Means			Туре	
HDF5		FTP, C	D-ROM, Ema	ail	offline		
		•	Accu	racy			
15 W/m ² monthly m	iean, se	e comp	onents for de	tails.			
Verification method		calcula	ited based on	accuracy of S	AL and	d SIS	
		Cover	age, resoluti	on and timeli	ness		
Spatial coverage	Spatia	al resolu	tion	Vertical resol	ution	Timeliness	
Meteosat disk, Northern Europe	(15 kn	n) ²				Product discontinued on 01.03.2012 Products are only available until 28.02.2012	

CM-71	Surfac	e Outo	going Longwa	ave Radiation	ı		SOL_SEVIRI	
Туре	-		Product					
Applications and us	ers							
Characteristics and	Method	ds	Monthly Mea	Monthly Mean, Monthly Mean Diurnal Cycle				
Comments								
Generation frequency			1 month					
Input satellite data			NWP (SEVIR	RI)				
			Dissem	ination				
Format			Means			Type		
HDF5		FTP, (CD-ROM, Ema	ail	offline			
		Ė	Accu	racy	Ė			
90 per cent of absol measurements) for mountainous region	monthly	/ mean	s. Higher bias	values occur i	n the A	Alpine and ot		
Verification method		compa	arison with in-	situ measurem	ents			
		Cove	rage, resoluti	on and timeli	ness			
Spatial coverage	Spatia	ıl resolu	ution	Vertical resol	ution	Timeliness		
Meteosat disk	Spatial resolution (15 km) ²					Product di on 01.03.20 Products a available u 28.02.2012	re only	



Service Specifications

CM-72	Surfa	ce Ou	tgoing Long	wave Radiat	ion	SOL_AVHRR_Eu	ırope		
Туре	-		Product						
Applications and u	sers								
Characteristics an	d Meth	ods	Monthly Mea	an					
Comments	Comments								
Generation frequency			1 month	1 month					
Input satellite data			NWP (AVH	RR)					
			Diss	semination					
Format			Means			Туре			
HDF5		FTP,	P, CD-ROM, Email offline)			
			Α	ccuracy					
	r mont	hly me	ans. Higher I	oias values o	ccur in	ity of ground based the Alpine and other comparison.			
Verification metho	d	comp	arison with ir	ı-situ measur	ement	S			
		Со	verage, reso	olution and t	imelin	ess			
Spatial coverage	Spatia	al reso	lution	Vertical resolution		Timeliness			
Europe	(15 kr	n) ²				Product discontinued on 01.03.2012 Products are only availal until 28.02.2012			

CM-73	Surfac	e Outo	going Longwa	ave Radiation		SOL_merged	
Туре			Product				
Applications and use	ers						
Characteristics and	Method	ls	Monthly Mea	Monthly Mean			
Comments							
Generation frequence	СУ		1 month				
Input satellite data			NWP (SEVIR	I, AVHRR)			
Dissemination							
Format			Means			Type	
HDF5 FTP, 0			CD-ROM, Email offline				
			Accu	racy			
10 W/m² monthly me	ean, for	details	s see compone	ents			
Verification method		compa	arison with in-s	situ measurem	ents		
		Cove	rage, resoluti	on and timeli	ness		
Spatial coverage	Spatia	l resolu	ution	Vertical resol	ution	Timeliness	
Meteosat disk, Northern Europe	1(15 km) 2					Product discontinued on 01.03.2012 Products are only available until 28.02.2012	



Service Specifications

CM-78	Surfac	e Dow	nward Longv	vave Radiatio	n	SDL_SEVIRI			
Туре			Product						
Applications and use	ers								
Characteristics and	Method	ls	Monthly Mea	Monthly Mean, Monthly Mean Diurnal Cycle					
Comments									
Generation frequence	СУ		1 month						
Input satellite data			SEVIRI						
Dissemination									
Format		Means Type			Type				
HDF5		FTP, 0	P, CD-ROM, Email offline						
			Accu	racy					
90 per cent of absol measurements) for r mountainous regions	monthly	/ mean	s. Higher bias	values occur i	n the A	Alpine and other			
Verification method		operat accura not ne	arison with in-situ measurements. Only a few reliable ional in-situ measurements are available in Africa. The target acy is based on the comparison at available stations and is cessarily valid everywhere in Africa. However, it is not ted that the quality is greatly reduced over Africa.						
		Cove	rage, resoluti	on and timeli	ness				
Spatial coverage	Spatia	ıl resolu	ution	Vertical resol	ution	Timeliness			
Meteosat disk	(15 kn	n) ²				Product discontinued on 01.03.2012 Products are only available until 28.02.2012			

CM-79	Surfa	ce Do	wnward Lon	gwave Radia	ation	SDL_AVHRR_Europe		
Туре			Product					
Applications and u	sers							
Characteristics and Methods			Monthly Mea	Monthly Mean				
Comments								
Generation freque	ncy		1 month					
Input satellite data			AVHRR					
Dissemination								
Format			Means			Type		
HDF5	FTP, CD-ROM			nail	Offline			
			Α	ccuracy				
measurements) for	r mont	hly me	ans. Higher b	ues below 10 W/m² (+ uncertainty of ground based ans. Higher bias values occur in the Alpine and other o uncertainties in area to point comparison.				
Verification method	d	comp	arison with in	n-situ measur	ement	s		
		Со	verage, resc	olution and ti	imelin	ess		
Spatial coverage	Spatial resolution			Vertical resolution		Timeliness		
Europe	(15 km) ²					Product discontinued on 01.03.2012 Products are only available until 28.02.2012		



Service Specifications

CM-80	Surfac	e Dow	nward Longv	vave Radiatio	n	SDL_merged	
Туре			Product				
Applications and use	ers						
Characteristics and	Method	ds	Merged product Monthly Mean				
Comments							
Generation frequence	су		1 month				
Input satellite data			SEVIRI, AVH	IRR			
			Dissem	ination			
Format			Means			Type	
HDF5 FTP, 0			CD-ROM, Email offline				
			Accu	racy			
10 W/m² monthly me	ean, foi	r details	see components				
Verification method		Comp CM-78	arison with in-situ measurements of components CM-79 and 3.				
		Cove	rage, resoluti	on and timeli	ness		
Spatial coverage	Spatia	al resolu	ution	Vertical resol	ution	Timeliness	
Meteosat disk, Northern Europe	1/15 km) 2					Product discontinued on 01.03.2012 Products are only available until 28.02.2012	

CM-85	Surfac	e Net	Longwave Ra	diation			SNL_SEVIRI	
Туре			Product					
Applications and us	ers							
Characteristics and	Method	ls	Monthly Mea	Monthly Mean, Monthly Mean Diurnal Cycle				
Comments								
Generation frequen	Су		1 month					
Input satellite data			SEVIRI					
Dissemination								
Format			Means			Type		
HDF5	FTP, CD-			CD-ROM, Email				
			Accu	racy				
15 W/m², see comp	onents	for deta	ails					
Verification method		calcul	ated based on	accuracy of S	OL and	d SDL		
		Cove	rage, resoluti	on and timeli	ness			
Spatial coverage	Spatia	ıl resolu	ution	Vertical resol	ution	Timeliness		
Meteosat disk	(15 km) ²					Product dis on 01.03.20 Products a available ui 28.02.2012	12 re only	



Service Specifications

CM-86	Surfa	ce Net	Longwave	Radiation		SNL_AVHRR_Europe			
Туре			Product						
Applications and u	isers								
Characteristics and Methods			Monthly Mea	Monthly Mean					
Comments									
Generation frequency			1 month	1 month					
Input satellite data AVHRR									
			Diss	semination					
Format			Means			Type			
HDF5		FTP,	CD-ROM, Er	nail	Э				
			Α	Accuracy					
15 W/m², see com	ponen	ts for c	letails						
Verification metho	d	calcul	ated based o	n accuracy o	of SOL	and SDL			
		Co	verage, resc	lution and t	imelin	ess			
Spatial coverage	Spatial resolution			Vertical resolution		Timeliness			
Europe	(15 km) ²					Product discontinued on 01.03.2012 Products are only available until 28.02.2012			

CM-87	Surfac	e Net	Longwave Ra	diation		SNL_merged	
Туре			Product				
Applications and us	ers						
Characteristics and	Method	ds	Merged prod	Merged product, Monthly Mean			
Comments							
Generation frequen	су		1 month				
Input satellite data			SEVIRI, AVH	IRR			
			Dissem	ination			
Format			Means			Type	
HDF5		FTP, 0	CD-ROM, Email				
			Accu	racy			
15 W/m², see comp	onents	for deta	ails				
Verification method		calcula	ated based on	ated based on accuracy of SOL and SDL			
		Cove	rage, resoluti	on and timeli	ness		
Spatial coverage	Spatia	ıl resolu	ution	Vertical resol	ution	Timeliness	
Meteosat disk, Northern Europe	(15 kn	n) ²				Product discontinued on 01.03.2012 Products are only available until 28.02.2012	



Service Specifications

CM-92	Surfac	e Rad	iation Budget				SRB	SEVIRI
Туре			Product					
Applications and use	ers							
Characteristics and	Characteristics and Methods			Monthly Mean, Monthly Mean Diurnal Cycle				
Comments								
Generation frequency			1 month					
Input satellite data			SEVIRI					
Dissemination								
Format			Means		Type			
HDF5		FTP, 0	CD-ROM, Ema	ail	offline			
			Accuracy					
20 W/m², see compo	onents	for deta	ails					
Verification method		Calcu	ated based on accuracy of components					
		Cove	rage, resoluti	on and timeli	ness			
Spatial coverage	Spatia	ıl resolu	ution	Vertical resol	ution	Timeliness		
Meteosat disk	(15 km) ²					Product dis on 01.03.20 Products ar available ur 28.02.2012	12 e onl	

CM-93	Surfa	ce Ra	diation Budg	jet		SRB_AVHRR_Europe			
Туре			Product						
Applications and u	sers								
Characteristics and Methods			Monthly Me	Monthly Mean					
Comments									
Generation freque	ncy		1 month						
Input satellite data AVHRR									
Dissemination									
Format			Means	3		Type			
HDF5	HDF5 FTP, CD			, Email offline					
			Α	ccuracy					
20 W/m², see com	ponen	ts for c	details						
Verification method	d	Calcu	lated based	on accuracy	of com	ponents.			
		Co	verage, reso	olution and t	imelin	ess			
Spatial coverage	Spatial resolution		Vertical resolution		Timeliness				
Europe	(15 km) ²					Product discontinued on 01.03.2012 Products are only available until 28.02.2012			



Service Specifications

CM-94	Surfac	e Rad	iation Budget			SRB_merged	
Туре			Product				
Applications and use	ers						
Characteristics and Methods			Merged prod	Merged product, Monthly Mean			
Comments							
Generation frequency			1 month				
Input satellite data			SEVIRI, AVH	IRR			
Dissemination							
Format	Format			i		Туре	
HDF5		FTP, 0	CD-ROM, Ema	ail			
			Accu	racy			
20W/m², see compo	nents f	or deta	ils				
Verification method		Calcu	lated based or	accuracy of	compor	nents.	
		Cove	rage, resoluti	on and timeli	ness		
Spatial coverage	Spatia	ıl resolu	ution	Vertical resol	ution	Timeliness	
Meteosat disk, Northern Europe	(15 km) ²					Product discontinued on 01.03.2012 Products are only available until 28.02.2012	

CM-104	Direct	Irradia	nce at Surfac	е	•	SID_SEVIRI I		
Туре			Product					
Applications and u	ısers		* NMHSs * Governme * Privat Sec * Public Sec					
Characteristics an	d Meth	nods	Daily Mean Monthly Me	Daily Mean Monthly Mean				
Comments								
Generation freque	Generation frequency			1 day, 1 month				
Input satellite dat	a		SEVIRI					
Dissemination								
Format			Means			Type		
HDF5		FTP, (CD-ROM, Email			offline		
			Accur	асу				
measurements) for	r mon	thly m	eans. Highei	r bias values	occur	ainty of ground based in the Alpine and to point comparison.		
Verification metho	od	comp	arison with i	n -situ meası	ıreme	nts		
	Co	verag	je, resolutio	on and time	liness			
Spatial coverage	Spatia	al reso	lution	Vertical resolution		Timeliness		
Meteosat disk	(15 k	m)²				2 month		



Service Specifications

CM-112	Incom Atmos		lar Radiative	Flux at the to	p of		TIS_merged
Туре	-		Product				
Applications and use	ers						
Characteristics and Methods			Daily mean, Monthly Mean, Monthly Mean Diurnal Cycle				
Comments			The accuracy	/ is given as th	e (max	kimum absolu	te) bias.
Generation frequence	СУ		1 day 1 mont	h			
Input satellite data			DIARAD/VIR	DIARAD/VIRGO			
Dissemination							
Format			Means	i		Type	
HDF5		FTP, 0	CD-ROM, Ema	offline			
			Accuracy				
1 W/m² (This accura	icy is in	variant	in time and w	ill not be moni	tored ir	n OR)	
Verification method		Interco	omparison of a	absolute radior	neters		
		Cove	rage, resoluti	on and timeli	ness		
Spatial coverage	Spatia	ıl resolu	ution	Vertical resol	ution	Timeliness	
Meteosat disk, Northern Europe	(45 km	n) ²				Product dis on 01.03.20 Products ar available ur 28.02.2012	12 e only

CM-114		ted so	lar Radiative	Flux at the To	op of	TR
Туре			Product			
Applications and users						
Characteristics and Methods			Daily Mean, Monthly Mean, Monthly Mean Diurnal Cycle			
Comments			The accuracy for development targets is given as the RMS error. For the SeSp accuracy is given as a ratio as described in the verification method			
Generation frequency			1 day 1 month			
Input satellite data			GERB, SEVIRI			
Dissemination						
Format			Means		Туре	
HDF5 FTP, 0		TP, CD-ROM, Email		offline		
Accuracy						
0.88 – 1.12 in ratio						
Verification method For da			parison to CERES, evaluated is the ratio of GERB/CERES. ata of Meteosat 8 comparison to GERB-like is used in the fashion. Compared are temporal slots between 11 and 12 only.			
		Cove	rage, resoluti	on and timeli	ness	
Spatial coverage	Spatial resolu		ution	Vertical resolution		Timeliness
Meteosat disk (45 km) ²						Product discontinued on 01.03.2017 Products are only available until 28.02.2017



Service Specifications

CM-116		ed Thei sphere	mal Radiative	e Flux at the	Гор of	TET			
Туре			Product	Product					
Applications and use	ers								
Characteristics and	Method	ds	Daily Mean, I	Monthly Mean	Month	nly Mean Diurnal Cycle			
Comments			error. For the		cy is gi	gets is given as the RMS ven as a ratio as od			
Generation frequence	СУ		1 day 1 mont	h					
Input satellite data			GERB, SEVI	RI					
			Dissem	Dissemination					
Format			Means			Туре			
HDF5		FTP, (CD-ROM, Ema	ail	offline				
			Accuracy						
0.94 – 1.06 in ratio									
Verification method		For da	parison to CERES, evaluated is the ratio of GERB/CERES. ata of Meteosat 8 comparison to GERB-like is used in the fashion. Compared are temporal slots between 11 and 12 only.						
		Cove	rage, resoluti	on and timeli	ness				
Spatial coverage	Spatial coverage Spatial resolu			Vertical resol	ution	Timeliness			
Meteosat disk (45 km) ²						Product discontinued on 01.03.2017 Products are only available until 28.02.2017			

CM-122	Vertic	ally In	tegrated Wa	ter Vapour		HTW_ATOVS_global	
Туре	-		Product				
Applications and u	sers						
Characteristics and	d Meth	ods	Daily Mean,	Monthly Mea	เท		
Comments							
Generation freque	ncy		1 month				
Input satellite data			ATOVS				
			Diss	emination			
Format			Means			Туре	
HDF5		FTP,	CD-ROM, Email of)	
		=	Accuracy				
1 mm bias (absolu	te valu	ie), 4.5	mm rms, Hig	nm rms, Higher deviations may occur over desert regions.			
Verification method	d	GUAN	N radiosonde				
		Co	verage, reso	lution and ti	meline	ess	
Spatial coverage	Spatial resolution			Vertical reso	lution	Timeliness	
Global	(90 kr	m)²				Product discontinued on 01.03.2017 Products are only available until 28.02.2017	



Service Specifications

CM-127	Vert	ically	y Integrate	ed Water V	apour	HTW_SSMI_global_D		
Type			Dataset					
Applications a	and us	ers	* Climate * NMHSs	Research				
Characteristic Methods	Characteristics and Methods Daily Mean Monthly Mean							
Comments						005. Accuracy numbers are given for arger deviations may occur.		
Generation fre	equen	су	N/A					
Input satellite	data		SSM/I					
		,		Disse	emination			
Format			Mean	IS		Туре		
Netcdf		FTP			offline			
				Ac	curacy			
0.05 % deca	adal s	stabi	lity, 1 kg	m ⁻² bias	, 2 kg m ⁻²	² rms		
Verification method		0		measurem comparison				
			Cove	rage, resol	ution and	timeliness		
Spatial coverage	Spa	tial re	resolution Vertical resolution Timeliness					
global ice free ocean	0.5°	0.5° N/A						

			•	_						
CM-131	Layer	ed wa	ter vapor and	d te	emperatur	re	HLW_	_ATOVS_glo		
Туре	-		Product							
Applications and	users									
Characteristics and Methods Daily Me. 5 layers					nthly Mea	n				
Comments										
Generation frequ	iency		1 month							
Input satellite da	ta		ATOVS							
			Diss	em	ination					
Format			Means				Туре			
HDF5		FTP,	CD-ROM, En	nail		offline	e			
Accuracy										
Т	emperat	ure [K	1			ı	- - - - - - - - - - - - - - - - - - -			
layer	bia		rms		layer		bias	rms		
1		1.25		2	1		0.015	0.0		
2		1.00		2	2		0.15	0.7		
3		0.50		2	3		0.20	1.7		
4		0.50	2.2	5	4		0.75	2.		
5		0.75	2.2	5	5		0.6	2.7		
Higher deviations	s may oc	cur ov	er desert regi	ions	S.					
Verification meth	od	GUAN	N radiosonde							
		Co	verage, reso	luti	on and ti	meline	ess			
Spatial coverage	Spatia	al reso	lution	Ve	ertical reso	lution	Timeliness			
Global	ilobal (90 km)²						Product disco 01.03.2017 Products are until 28.02.20	only availab		



Service Specifications

CM-137	Speci press		midity and Te	emp	erature	at	HSH_	_ATOVS_	globa	
Туре			Product							
Applications and u	users									
Characteristics and Methods			Daily Mean, 6 levels	Daily Mean, Monthly Mean 6 levels						
Comments										
Generation freque	ency		1 month							
Input satellite data	a a		ATOVS							
			Disse	emin	ation					
Format	Means				Туре					
HDF5	DF5 FTP, CD-RC				mail offline					
			Ac	cura	асу					
Te	mperat	ure [K	[]			Н	lumidity [g/kg]			
level	bias		rms		level		bias	rms	3	
1		1.25	3.0	_	1		0.015		0.05	
2		1.25	2.0	_	2		0.02		0.25	
3		0.5	2.0	_	3		0.1		1.0	
4		0.3	2.0	_	4		0.2		1.5	
5		0.3	2.0	_	5		0.5		2.0	
6		0.4	2.5	5	6		0.3		2.0	
Higher deviations	may oc	cur ov	er desert regi	ons.						
Verification metho	N radiosonde									
		Co	verage, resol	utio	n and tii	neline	ess			
Spatial coverage	Spatia	al reso	lution	Vert	ical reso	lution	Timeliness			
Global (90 km) ²							Product disco 01.03.2017 Products are until 28.02.20	only ava		

CM-141	Near S	Surface	Specific Hu	midity		NSH_HOAPS		
Туре			Dataset					
Applications and u	users		* Climate R * NMHSs	esearch				
Characteristics an	ıd Met	hods	Composite Monthly Me	an				
Comments			Accuracy nu	series covel umbers are g ger deviatio	jiven f	or global mean values.		
Generation freque	ency	y N/A						
Input satellite dat	:a		SSM/I	SSM/I				
			Dissem	ination				
Format			Means			Туре		
Netcdf		FTP			е			
			Accu	racy				
Bias:-0.4 g/kg (3	%), RI	MS: 0.	1 g/kg (1%)	; decadal st	ability	: -0.1 %		
Verification method	bd	Comp	arison to sh	rison to ship and buoy based measurements				
	Co	overa	ge, resoluti	on and tim	elines	SS		
Spatial coverage	Spatia	al reso	olution	Vertical resolution		Timeliness		
global ice free ocean	0.5°					N/A		



Service Specifications

CM-142	Near	Surfa	ce Wind Sp	eed		SWS_HOAPS		
Туре			Dataset					
Applications and	Applications and users			esearch				
Characteristics ar	nd Met	hods	Composite Monthly Me	an				
Comments	Accuracy no	series cove umbers are g ger deviatio	given	for global mean values.				
Generation freque	ency		N/A	N/A				
Input satellite dat	ta		SSM/I					
			Dissem	ination				
Format			Means	;		Type		
Netcdf		FTP			offlin	ne		
			Accı	ıracy				
Bias: 0.24 m/s, r	ms: 0.	15 m/	's, Decadal s	stability: 0.0	9 m/s			
Verification method	od	Comp	arison to sh	arison to ship and buoy based measurements				
	С	overa	ge, resolut	ion and tim	eline	SS		
Spatial coverage	Spatia	al reso	olution	Vertical resolution		Timeliness		
global ice free ocean	0.5°					N/A		

CM-143	Laten	it Hea	t Fluxes			LHF_HOAPS		
Туре			Dataset					
Applications and u	users		* Climate R * NMHSs	* Climate Research * NMHSs				
Characteristics an	nd Met	hods	Composite Monthly Me	an				
Comments			Accuracy nu	Target time series covers 1987-2008. Accuracy numbers are given for global mean values. Regional larger deviations may occur.				
Generation freque	ency		N/A					
Input satellite dat	a		SSM/I					
			Dissem	ination				
Format			Means	;	Type			
Netcdf		FTP			offline	9		
			Accu	racy				
Bias: 1 W/m², rm	ıs: 3.7	W/m ²	² , Decadal st	ability: 2.7	W/m²			
Verification method	bc	Comp	arison to sh	arison to ship and buoy based measurements				
	C	overa	ge, resoluti	on and tim	elines	SS		
Spatial coverage	Spatia	al resc	olution	Vertical resolution		Timeliness		
global ice free ocean	0.5°					N/A		



Service Specifications

CM-144	Preci	pitati	on			PRE_	_HOAPS	
Туре			Dataset					
Applications and u	ısers		* Climate R * NMHSs	* Climate Research * NMHSs				
Characteristics an	d Met	hods	Composite Monthly Me	an				
Comments			Accuracy nu	e series cove umbers are g rger deviatio	given f	or global mean	values.	
Generation freque	ency		N/A					
Input satellite dat	:a		SSM/I					
			Dissem	ination				
Format			Means	5	Туре			
Netcdf		FTP		offline				
			Accu	racy	=			
Bias: -0.12 mm/d	l, rms:	0.14	mm/d, Deca	dal stability	: -0.01	L mm/d		
Verification method	od	Comp	parison to ship and buoy based measurements					
	C	overa	ge, resoluti	ion and tim	elines	SS		
Spatial coverage	Spatia	al reso	olution	Vertical resolution		Timeliness		
global ice free ocean	0.5°					N/A		

CM-145	Evapo	oratio	n			EVA_HOAPS		
Туре	-		Dataset					
Applications and u	ısers		* Climate R * NMHSs	esearch				
Characteristics an	ıd Metl	hods	Composite Monthly Me	an				
Comments			Accuracy nu	Target time series covers 1987-2008. Accuracy numbers are given for global mean values. Regional larger deviations may occur.				
Generation freque	ency		N/A	N/A				
Input satellite dat	:a		SSM/I					
			Dissem	ination				
Format			Means	;	Type			
Netcdf		FTP			offline			
			Accu	racy				
Bias: 0.04 mm/d,	rms:	0.13 r	nm/d, Decad	dal stability:	-0.01	mm/d		
Verification metho	bd	Comp	arison to sh	ip and buoy	based	measurements		
	Co	overa	ge, resoluti	ion and tim	elines	ss		
Spatial coverage	Spatia	al reso	olution	Vertical resolution		Timeliness		
global ice free ocean	0.5°					N/A		



Service Specifications

CM-146	Evap	oratio	n-Precipita	ition		EMP	_HOAPS	
Туре			Dataset					
Applications and	users		* Climate R * NMHSs	esearch				
Characteristics ar	nd Met	hods	Composite Monthly Me	an				
Comments			Accuracy nu	Target time series covers 1987-2008. Accuracy numbers are given for global mean values. Regional larger deviations may occur.				
Generation freque	ency		N/A	N/A				
Input satellite dat	a		SSM/I					
			Dissem	ination				
Format			Means	3	Туре			
Netcdf		FTP	0			offline		
			Accu	ıracy				
Bias:0.04 mm/d	,rms:	0.2 m	m/d, Decada	al stability: ().1 mr	n/d		
Verification metho	od		parison to global river runoff data. Comparison to rated water vapor.					
	C	overa	ge, resolut	ion and tim	eline	SS		
Spatial coverage	patial coverage Spatial reso			vertical resolution		Timeliness		
global ice free ocean	0.5°					N/A		

CM-54	Surfa radia		ncoming shorty	vave		SIS_MVIRI_disk_DS		
Type			Dataset					
Applications and users			* Climate Resea * NMHSs * Government a * Privat Sector * Public Sector		es			
Characteristics Methods	and		Instantaneous Monthly Mean,	Daily	Mean			
Comments			time series fron	า 1983	3-200	5		
Generation freq	uency	/	N/A					
Input satellite d	lata		MVIRI					
			Dissemi	natio	n			
Format			Means			Туре		
netcdf		FTP	Offline			e		
			Accui	асу				
			. diff. (MAD): 8 Nean abs. diff. (M		15 W,	/m²		
Verification met	hod	comp	oarison with in-s	itu me	easure	ements		
Coverage, resolution and timeliness								
Spatial coverage	Spat	ial res	solution	Verti resol		Timeliness		
Meteosat disk			titude longitude x 0.03 degree			N/A		



Service Specifications

CM-106	Dire	ct Irr	adiance at Surf	ace		SID	_MVIRI	_disk_	_DS		
Туре			Dataset								
Applications and	d user	rs	* Climate Resea * NMHSs * Government a * Privat Sector * Public Sector		ies						
Characteristics Methods	and		Instantaneous Monthly Mean, D	Paily Means							
Comments			time series from	198	3-2005						
Generation freq	uency	,	N/A								
Input satellite d	lata		MVIRI								
			Dissemir	atio	n						
Format			Means Type								
netcdf		FTP			Offline						
			Accura	асу							
			. diff. (MAD):11 \ ean abs. diff. (MA			1 ²					
Verification met	thod	comp	parison with in-si	tu m	easureme	nts					
		Cove	erage, resolutio	n an	d timelir	ness					
Spatial coverage	Spat	ial res	solution	Vert resc	ical Iution	Timelin	ess				
Meteosat disk			titude longitude x 0.03 degree			N/A					

CM-111	Cloud	d Albe	edo		CAL_MVIRI_DS			
Type	-							
Applications and users			* NMHSs	* Government agencies * Privat Sector				
Characteristics a Methods	nd		Instantaneous, Monthly Mean, I	Daily mean				
Comments			time series from	1983-2005	5			
Generation frequ	iency		N/A					
Input satellite da	ita		MVIRI					
			Disseminat	ion				
Format			Means	Туре				
netcdf		FTP		Offline				
			Accuracy	/				
Monthly means: Daily means /ins								
Verification meth	nod	RTM	studies using GE	RB TOA flux				
_	C	overa	ge, resolution a	and timelin	iess			
Spatial coverage	Spati	al res	olution	Vertical resolution	Timeliness			
Meteosat disk	_		itude longitude 0.03 degree		N/A			



Service Specifications

CM-05	Fractio	onal C	Cloud Cov	er		CFC_AVHRR_global_DS		
Type	-		Data record					
Applications and users			* Climate Research * NMHSs * Government agencies * Privat Sector * Public Sector					
Characteristics Methods	and		Daily Mea Monthly M					
Comments			Time series from 1982-2009. The accuracy is defined as the mean error (i.e., defined in % cloud amount units) and precision is defined as the bias-corrected RMS error.					
Generation free	quency		N/A					
Input satellite	data		AVHRR_G	AC				
			Disse	mination				
Format			Means			Type		
netcdf		FTP	offlir			ne		
			Acc	curacy				
Accuracy: 3.6 ^o Bias corrected			YNOP)					
Verification me	thod	with	arily comparisons with SYNOP but complemented consistency checks against MODIS and dsat/CALIPSO datasets					
_	Co	vera	ge, resolu	ition and	time	liness		
Spatial coverage	Spatial	resol	ution	Vertical resolution		Timeliness		
Global	$(0.25)^2$	2		n/a		N/A		

CM-11	Joint C	Cloud	l Histogra	ams		JCH_AVHRR_global_DS		
Type	-		Dataset					
Applications a	nd user	S	* Climate	Research				
Characteristics and Methods			Monthly histograms of Cloud top pressure and cloud optical depth. This product is a combination of COT (CM-34), CPH (CM-38) and CTO (CM-17) and depends on the accuracy of these products.					
Comments			Time seri	es from 19	982	2-2009.		
Generation fre	equency		N/A					
Input satellite	data		CTO (CM-17), COT (CM-34), CPH (CM-38)					
			Disser	mination				
Format			Means			Type		
Netcdf		FTP	offline					
			Acc	uracy				
n/a								
Verification me	ethod	n/a						
	Cov	erag	e, resolu	tion and t	tin	neliness		
Spatial coverage	Spatial	reso	lution	Vertical resolution		Timeliness		
Global	$(1.0)^2$			n/a		N/A		



Service Specifications

CM-17 Cloud To	р			CTO_AVHRR_global_DS		
Туре	Dataset					
Applications and users	* Climate Research * NMHSs * Government agencies * Privat Sector * Public Sector					
Characteristics and Methods Daily Mean and Monthly Mean for: Cloud Top Temperature (CTT) Cloud Top Height (CTH) Cloud Top Pressure (CTP)						
Comments	The Accu	Time series from 1982-2009. The Accuracy is defined as the Mean error and precision is defined as the Bias-corrected RMS error.				
Generation frequency N/A						
Input satellite data	AVHRR_G	SAC				
	Dis	ssemination				
Format		Means		Type		
netcdf	FTP			offline		
	•	Accuracy				
The accuracy is given ta Accuracy: -40 to -50 hPa Bias corrected RMS: < 8	3	S data as refere	ence			
Verification method	Compa	rison with MOD	IS,	PATMOS-X and ISCCP.		
Cov	erage, res	olution and ti	mel	iness		
Spatial coverage Spatial re	esolution	Vertical resolution	Timeliness			
Global (0.25) ²		n/a	N/A	4		

CM-34	Cloud O	otical Thic	kness		COT_AVHRR_global_DS		
Туре		Dataset					
Applications and	* NMHSs	Research	cies				
Characteristics Methods	and	Daily Mea Monthly N					
Comments					009. Bias and rms are defined larger differences may occur.		
Generation frequency N/A							
Input satellite data AVHRR_GAC							
Dissemination							
Format		Mean	S	Туре			
netcdf	FTP			offlin	ne		
			Accurac	У			
The accuracy is Accuracy: -5 % bias corrected F decadal stability	to -10 % RMS: 30	6	S data as r	efere	ence		
 Comparison with MODIS (2000-2009) Comparison with PATMOS-x Comparison with ISCCP Comparison with Cloudsat/Calipso (2007-2009) 							
	Co	verage, r	esolution	and	timeliness		
Spatial coverage	Spatial r	esolution	Vertical resolution		Timeliness		
Global	(0.25°)²		n/a		N/A		



Service Specifications

CM-38 C	Cloud	d Phase			CPH_AVHRR_global_DS		
Туре		Dataset					
Applications and	d use	* NMHSs	Research	cies			
Characteristics a Methods	and	Daily Mea Monthly N					
Comments					009. Bias and rms are defined larger differences may occur.		
Generation frequency N/A							
Input satellite data AVHRR_GAC							
Dissemination							
Format		Mean	S	Туре			
netcdf		FTP		offlir	ne		
			Accurac	у			
The accuracy is Bias: 3-20 % Bias corrected R Decadal stability	RMS:	12-20 %	S data as r	efere	ence		
Verification method	The state of the s						
		Coverage, r	esolution	and	timeliness		
Spatial coverage	Spatial resolution		Vertical resolution		Timeliness		
Global ((0.25	⁽⁰) ²	n/a		N/A		

CM-43 Liqu	ıid W	ater Path	1		LWP_AVHRR_global_DS		
Туре		Dataset					
Applications and us	* Climate * NMHSs * Governr						
Characteristics and Methods		Daily Mea Monthly N					
Comments		e series from 1982-2009. Bias and rms are ned for the globe; regionally larger differences occur.					
Generation frequer	су	N/A					
Input satellite data	AVHRR_G	GAC					
Dissemination							
Format		Mean	S		Type		
netcdf	FTP			offline			
	-		Accuracy				
The accuracy is giv Bias: 15 % Bias corrected RMS Decadal stability tb	s: 35-	_	S data as i	efere	ence		
Verification method	WR retrieved LWP over						
_	Cove	rage, res	olution an	d tin	meliness		
Spatial	tial re	solution	Vertical		Timeliness		
coverage	tiai i c	Jordanon	resolution		Timemiess		



Service Specifications

CM-47 Ice Water Path						IWP_AVHRR_Global_DS		
Туре	Туре			dataset				
Applications an	d use	rs	Climate R	esearch				
Characteristics	and M	lethods		n, monthly period cov		an will be 1982-2009		
Comments			defined fo	Time series from 1982-2009. Bias and rms are defined for the globe; regionally larger differences may occur.				
Generation free	quency	/	N/A					
Input satellite data			AVHRR G	AC				
	Dissemination							
Format	Format					Туре		
netcdf		FTP			offlir	offline		
			Ac	curacy				
The accuracy is Bias: 0 % to -8 Bias corrected Decadal stabilit	80 % rms: 3	35-45 %	MODIS da	ta as refer	ence			
Verification me	arison with CloudSat arison with PATMOS-X arison with MODIS arison with ISCCP							
		Covera	ge, resol	ution and	time	eliness		
Spatial coverage	Spatia	al resolution		Vertical resolution	1	Timeliness		
Global	(0.25)2	·	n/a		n/a		

CM-52	Surfa radia	SIS_AVHRR_global_DS						
Type			Dataset					
Applications and ι		* NMHS: * Gover: * Privat	* Climate Research * NMHSs * Government agencies * Privat Sector * Public Sector					
Characteristics an	ods	Daily Me Monthly						
Comments		time ser	ies from 1	989-	2009			
Generation freque		N/A						
Input satellite dat	AVHRR_GAC							
			Diss	eminatio	n			
Format			Means			Type		
netcdf		FTP			offlir	ne		
			А	ccuracy				
Monthly mean acc Daily mean accura								
Verification metho	od	com	parison v	vith in-situ	mea	asurements		
	Coverage, resolution and timeliness							
Spatial coverage	Spatia	al res	solution	Vertical resolution	1	Timeliness		
Global	(0.25	°) ²		n/a		N/A		



Service Specifications

CM-60	Surf	ace Albedo		SAL	_AVHRR_	_global_	DS		
Туре		Dataset	Dataset						
Applications an	ıd use	* NMHSs	Research	cies					
Characteristics and Methods Pentad Mean Monthly Mean									
Comments		time serie	es from 198	2-2009					
Generation free									
Input satellite	data	AVHRR_G	AVHRR_GAC						
Dissemination									
Format		Mean	Means			Туре			
netcdf		FTP		offline					
			Accuracy	1					
Mean relative r Mean rmse: 0.0 Decadal stabilit 5.8 %	091			neet (1989	-2009), in relati	ve units)	:	
Verification method		continuous val campaigns	idation at n	mast measurement sites & field					
	Coverage, resolution and timeliness								
Spatial coverage	Spat	ial resolution	Vertical resolution	Timel	Timeliness				
Global	(0.2	-0.12	n/a	1	N/A				

CM-67	Surfa Radia		et Short	wave		SNS_AVHRR_global_DS	
Type	=		Dataset				
Applications and u	* Climate Research * NMHSs * Government agencies						
Characteristics an	d Meth	ods	Monthly	Mean			
Comments			time ser	ies from 1	989-	2009	
Generation freque		N/A					
Input satellite dat		AVHRR_GAC					
Dissemination							
Format			Means			Type	
netcdf		FTP		offline			
			A	ccuracy			
monthly mean acc	curacy:	20 \	N/m²				
Verification metho	od	calcı	ulated ba	sed on ac	curac	cy of SAL and SIS	
	Co	vera	ge, resc	olution an	d tir	neliness	
Spatial coverage	Spatia	Spatial resolution		Vertical resolution	1	Timeliness	
Global	(0.25	²) ²		n/a		N/A	



Service Specifications

СМ-74		ace C		Longwave	:	SOL	_AVHRR	_global	_DS
Type	-		Dataset						
Applications ar	nd use	ers	* Climate * NMHSs * Governi	Research ment agen	cies				
Characteristics Methods	and		Monthly M	1ean					
Comments			time serie	s from 198	39-20	09			
Generation fre	quenc	У	N/A						
Input satellite	data		NWP (AVI	HRR_GAC)					
			Dissemination						
Format			Means	Type					
netcdf		FTP			offlir	ne			
			A	ccuracy					
Monthly mean	accur	acy:	14 W/m²						
Verification me	ethod	com	parison wit	th in-situ m	neasu	reme	nts		
	С	over	age, reso	lution and	eline	ss			
Spatial coverage	Spat	ial re	solution	Vertical resolution		Time	liness		
Global	(0.2	5°)²	Means Type offline Accuracy 14 W/m² nparison with in-situ measurements trage, resolution and timeliness						

CM-81 Surface Radiat	ce Downwa	rd Longwa	ve	SDL_AVHRR_global_DS			
Туре	Dataset	t					
Applications and users	* NMHS	ite Researcl Ss rnment age					
Characteristics and Methods	Monthly	y Mean					
Comments	time se	time series from 1989-2009					
Generation frequency	N/A	N/A					
Input satellite data	AVHRR_	_GAC					
	Di	sseminati	on				
Format	Mea	ns	Туре				
netcdf	FTP		offlin	e			
		Accuracy					
Monthly mean accuracy	: 8 W/m²						
Verification method	comparison	with in-situ	meas	urements			
Co	overage, re	solution a	nd tin	neliness			
Spatial Spatia	l resolution	Vertical resolution		Timeliness			
Global (0.25°) ²	n/a		N/A			



Service Specifications

CM-88		ace Ne	et Longv	vave		SNL	_AVHRR	_global	_DS
Туре	-	[Dataset						
Applications a	nd use	ers *	NMHSs	Research ment agen	cies				
Characteristics Methods	s and	N	onthly M	1ean					
Comments		t	time series from 1989-2009						
Generation fre	quen	cy N	N/A						
Input satellite	data	P	AVHRR_GAC						
			Diss	seminatio	n				
Format			Means	5		Type			
netcdf		FTP			offlir	ne			
			Α	ccuracy					
Monthly mean	accur	acy: 2	2 W/m²						
Verification method		calcul	ated base	ed on accu	racy	of SOL	and SDI	_	
Coverage, resolution and timeliness								•	
Spatial coverage	Spat	ial reso	olution	Vertical resolution	1	Timeli	iness		
Global	(0.2	5°)²		n/a		N/A			

CM-95	Surfa	ce R	adiation	Budget		SRB_AVHRR_global_DS				
Туре	-		Dataset							
Applications and u	isers		* NMHS	e Researc s nment age		s				
Characteristics an	d Meth	ods	Daily Me	an TBC M	onth	ly Mean				
Comments			time ser	ies from 1	989-	2009				
Generation freque	ncy		N/A							
Input satellite data	a		AVHRR_GAC							
Dissemination										
Format			Mean	IS		Туре				
netcdf		FTP			offlir	ne				
			Α	ccuracy						
Monthly mean acc	uracy:	42 V	V/m²							
Verification metho	od	calcı	culated based on accuracy of SNS and SNL							
Coverage, resolution and timeliness										
Spatial coverage	Spatia	al res	olution	Vertical resolution	1	Timeliness				
Global	(0.25	°) ²		n/a		N/A				



Service Specifications

CM-100	Cloud	Radiative	Effect SW		CFS AVHRR global DS
Туре		Datase	t		
Applications and u	sers	* NMH * Gove * Priva	ate Researc Ss ernment age t Sector c Sector		3
Characteristics and	d Meth	ods Monthl	y Mean		
Comments		time se	eries from 1	989-2	2009
Generation freque	ncy	N/A			
Input satellite data	3	AVHR	_GAC		
		Di	sseminatio	n	
Format		Mea	ans		Туре
netcdf		FTP		offlin	ne
			Accuracy		
Monthly mean acc	uracy:	15 W/m²			
Verification metho	d	calculated f	rom radiation	on pro	oducts
	Co	verage, res	solution an	d tin	neliness
Spatial coverage	Spatia	al resolution	Vertical resolution	1	Timeliness
Global	(0.25	P) ²	n/a		N/A

	•								
CM-101	Cloud	Rac	liative E	ffect LW		CFL_	_AVHRR_	_global_	_DS
Type			Dataset						
Applications and u	ısers		* NMHS	nment age e Sector		S			
Characteristics an	d Meth	nods	Monthly	Mean					
Comments			time ser	ies from 1	.989-	2009)		
Generation freque	ency		N/A						
Input satellite dat	a		AVHRR_	GAC					
			Disse	mination					
Format			Mear	ıs			Type		
netcdf CF		FTP			offlii	ne			
			Acc	curacy					
Monthly mean acc	curacy	15 V	V/m²						
Verification metho	od	calc	ulated fro	om radiati	on pr	oduc	ts		
	Cove	rage	e, resolu	tion and	time	elines	ss		
Spatial coverage	Spatia	al res	solution	Vertical resolution	า	Time	eliness		
Global	(0.25	°)²		n/a		N/A			



Service Specifications

CM-69	Surfac Radia		et Shortwave		SNS	_MVIRI_disk_DS				
Туре	-		Dataset	Dataset						
Applications and u	sers		* Climate Resear * NMHSs * Government ar * Private Sector * Public Sector		es					
Characteristics and	d Metho	ods	Monthly Mean							
Comments		time series from 1983-2005								
Generation freque	ncy	N/A								
Input satellite data	a			MVIRI based solar radiation (CM-54) and the AVHRR GAC surface albedo (CM-60)						
			Dissemination							
Format			Means			Type				
Netcdf CF		FTP,	CD-ROM	off	line					
			Accuracy							
The accuracys is g exception of brigh Here the accuracy occur over fresh s	t deser is belo	t and w 20	d snow/ice surface) W/m**2, slightl	es. y high	er unc	,,				
Verification metho	od calculated based on accuracy of SAL and SI									
Coverage, resolution and timeliness										
Spatial coverage	Spatia	l res	olution	Vertice resol		Timeliness				
Meteosat disk			citude longitude c 0.03 degree	n/a		N/A				

CM-150	Microwa	ve Rad	iance FC	DR	FCDF	_SSMI_	_global_D
Type			Dataset				
Application	s and user	rs	* Valida * Basis (SAF)	and reanalys tion of (clim for TCDR pro noisture com	ate) mo oducts (dels	
Characteris	tics and M	ethods		ess Tempera channels of		wath-bas	sed,
Comments			The time series covers 1987-2008. Accuracy numbers are given for global me values. Regional larger deviations may occ Quality is applicable for ocean observation				
Traceability	of Requir	ements	See sect	tion PRD sec	tion 10.	7 for det	tails
Generation	frequency	1	N/A				
Input satel	ite data		SSM/I				
			Dissemination				
Format		Means			Туре		
Netcdf CF		FTP			offline		
		-	Acc	uracy			
	(; (< 2 K f	or chan	nels 37h				
Verification	method				(rms ba	sed on g	lobal
	Co	verage	, resolut	tion and tir	nelines	s	
Spatial coverage	Spatial re	esolutio	channels 37h and 85h) K/decade for all channels intersatellite comparison (rms based on global monthly means) erage, resolution and timeliness				
global	Sensor r	esolutio	n	n/a	N/A		



Service Specifications

CM-113			solar Radi Atmosphe	ative Flux	at	TRS_merged_DS
Туре	-		Dataset			
Applications and	users		* Climate I * NMHSs	Research		
Characteristics a Methods	and		Daily mear Monthly Me Monthly Me		Cycle	
Comments			time series	from 01.02	2.2004	1- 31.01.2011
Generation frequ	uency		N/A			
Input satellite d	ata		GERB, SEV	IRI, CERES		
			Dissem	ination		
Format			Means	5	Type	
netcdf CF		FTP			offlin	e
			Accu	racy		
Monthlymean (daily mean (rms						
Verification met	hod	GERE	3 CERES into	ercomparisc	n	
	Cov	verag	e, resoluti	on and tim	eline	SS
Spatial coverage	Spati	al res	olution	Vertical resolution		Timeliness
Meteosat Disk + Arctic	(45 k	m) ²				N/A

CM-115			hermal Rac Atmosphe	diative Flux ere	c at	TET_merged_DS			
Туре	=		Dataset	Dataset					
Applications and	users		* Climate F * NMHSs	Research					
Characteristics a Methods	nd		Daily mear Monthly Me Monthly Me		Cycle				
Comments			time series	from 01.02	2.2004	I-31.01.2011			
Generation frequ	iency		N/A						
Input satellite da	ita		GERB, SEV	GERB, SEVIRI					
			Dissem	ination					
Format			Means	5	Type				
netcdf CF		FTP			offlin	e			
			Accu	racy					
monthly mean (r daily mean (rms									
Verification meth	nod	GERE	CERES into	ercompariso	n				
	Cov	verag	e, resoluti	on and tim	eline	ss			
Spatial coverage	Spati	al res	Pesolution Vertical resolution Timeliness						
Meteosat disk + Arctic	(45 k	m) ²				N/A			



Service Specifications

Type Dataset Applications and users * Climate Research * NMHSs Characteristics and Methods Daily Mean Monthly Mean Comments Time series from 01.01.1999-31.12.2011 Accuracy numbers are given for global mean values Generation frequency N/A Input satellite data ATOVS Dissemination Format Means Type Netcdf CF FTP, CD-ROM Offline Accuracy vs. GUAN measurements Bias -0.16 kg/m² RMS: 3.25 kg/m² Verification ground based measurements intersatellite comparison Coverage, resolution and timeliness Spatial coverage Spatial resolution Timeliness	CM-123	Vert	ically	/ Integra	ted V	Vate	•	HTW_ATOVS_global_DS
Applications and users * Climate Research * NMHSs Characteristics and Methods Daily Mean Monthly Mean Comments Time series from 01.01.1999-31.12.2011 Accuracy numbers are given for global mean values Generation frequency N/A Input satellite data ATOVS Dissemination Format Means Type Netcdf CF FTP, CD-ROM Offline Accuracy vs. GUAN measurements Bias -0.16 kg/m² RMS: 3.25 kg/m² Verification Measurements method ground based measurements method ground based measurements method intersatellite comparison Coverage, resolution and timeliness Spatial coverage Vertical resolution Timeliness	CI-1-123	Vapo	our	Г				TTT W_ATO V3_global_b.
Applications and users * NMHSs Characteristics and Methods	Туре			Dataset				
Methods Comments Time series from 01.01.1999-31.12.2011 Accuracy numbers are given for global mean values Generation frequency N/A Input satellite data ATOVS Dissemination Format Means Type Netcdf CF FTP, CD-ROM Offline Accuracy vs. GUAN measurements Bias - 0.16 kg/m² RMS: 3.25 kg/m² Verification method Ground based measurements intersatellite comparison Coverage, resolution and timeliness Spatial coverage Spatial resolution Timeliness Timeliness	Applications ar	nd us	ers		Rese	earch		
Accuracy numbers are given for global mean values Generation frequency N/A Input satellite data ATOVS Dissemination Format Means Type Netcdf CF FTP, CD-ROM Offline Accuracy vs. GUAN measurements Bias - 0.16 kg/m² RMS: 3.25 kg/m² Verification method Ground based measurements intersatellite comparison Coverage, resolution and timeliness Spatial coverage Spatial resolution Timeliness		and		,				
Input satellite data ATOVS Dissemination Format Means Type Netcdf CF FTP, CD-ROM Offline Accuracy vs. GUAN measurements Bias - 0.16 kg/m² RMS: 3.25 kg/m² Verification method ground based measurements intersatellite comparison Coverage, resolution and timeliness Spatial coverage Spatial resolution Vertical resolution Timeliness	Comments							.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Pormat Means Type Netcdf CF FTP, CD-ROM Offline Accuracy vs. GUAN measurements Bias - 0.16 kg/m² RMS: 3.25 kg/m² Verification method ground based measurements intersatellite comparison Coverage, resolution and timeliness Spatial coverage Spatial resolution resolution resolution Timeliness	Generation free	quen	су	N/A				
Format Means Type Netcdf CF FTP, CD-ROM Offline Accuracy vs. GUAN measurements Bias -0.16 kg/m² RMS: 3.25 kg/m² Verification method ground based measurements intersatellite comparison Coverage, resolution and timeliness Spatial coverage Spatial resolution resolution resolution Timeliness	Input satellite	data		ATOVS				
Netcdf CF FTP, CD-ROM Offline Accuracy vs. GUAN measurements Bias -0.16 kg/m² RMS: 3.25 kg/m² Verification method ground based measurements intersatellite comparison Coverage, resolution and timeliness Spatial coverage Spatial resolution resolution resolution Timeliness				Di	ssem	inati	on	
vs. GUAN measurements Bias -0.16 kg/m² RMS: 3.25 kg/m² Verification method ground based measurements intersatellite comparison Coverage, resolution and timeliness Spatial coverage Spatial resolution resolution resolution Timeliness	Format			Mean	S			Туре
vs. GUAN measurements Bias -0.16 kg/m² RMS: 3.25 kg/m² Verification method ground based measurements intersatellite comparison Coverage, resolution and timeliness Spatial coverage Spatial resolution Spatial resolution Vertical resolution Timeliness	Netcdf CF		FTP,	CD-ROM			Offli	ne
Bias - 0.16 kg/m² RMS: 3.25 kg/m² Verification method ground based measurements intersatellite comparison Coverage, resolution and timeliness Spatial coverage Spatial resolution resolution resolution Timeliness					Accı	ıracy		
method intersatellite comparison Coverage, resolution and timeliness Spatial coverage Spatial resolution Vertical resolution resolution	Bias -0.16 kg/r	m²	nents	5		Bias:	1.53	k/m²
Spatial coverage Spatial resolution Vertical resolution Timeliness			_				ents	
coverage Spatial resolution resolution Imeliness			Cove	erage, res	solut	ion a	nd ti	imeliness
Global (90 km) ² N/A	•	Spat	ial re	solution				Timeliness
(30 km)	Global	(90	km)²					N/A

CM-13	2	-		wate ature	r vap	our	and		HLW_AT	OVS_glo	bal_ DS			
Type		-			Dataset									
Applica	itions ar	nd use	rs		* Climate Research, NMHSs									
Charac	teristics	and N	1eth	ods	Daily	/ Me	an, M	1onthly M	lean, 5 laye	ers				
Comme	ents					iracy			1.1999-31. given for g		an			
Genera	ition fre	quenc	У		N/A	N/A								
Input s	atellite	data			ATO	ATOVS								
					Diss	Dissemination								
	Format			1	Mean:	S			Type					
Netcdf	CF		FTF	P, CD-F	ROM			offline						
			•		A	ccui	racy							
	Tem	perat	ure	[K]				Hun	m ⁻²]					
	layer	bias		rmse				layer	bias	rmse				
	1		11	1.34				1	0.0014	0.035				
	2	-0.	23	1.24				2	0.0029	0.39				
	3	-0.		1.34				3	0.22	1.15				
	4	-0.	13	1.44	ļ.			4	0.21	1.25				
	5	-0.	35	1.8	3			5	-0.64	1.72				
Verifica	ation me	ethod							l measurem comparison					
		С	ove	rage,	reso	lutio	on ar	nd timeli	ness					
Spatial covera		Spat	Spatial resoluti			on Vertical Timeliness				3				
Global		(90 I	km)	2					N/A					



Service Specifications

CM-138	Specific Hum at pressure l		d Te	mper	atu	re	HSH_A	TOVS_g	lobal_DS
Туре	-		Dataset						
Applications and	users		* Clir	nate	Rese	earc	h, NMHS	5	
Characteristics a	Daily	Mea	n, M	ontl	nly Mean,	6 levels			
Comments		acy r			01.01.199 s are give				
Generation frequ	N/A								
Input satellite da	ATOV	/S							
		Diss	emin	atior	1				
Form	Means Type								
Netcdf CF	Netcdf CF FTP, CD					off	line		
		A	ccura	су					
Temp	erature [K]			Humidity [g/kg]]	
1 2 3	bias rms 0.026 1.80 -0.25 1.32	2			lev 1 2 3		bias 0.0032 -0.013	rms 0.021 0.076	 - -
	-0.13 1.45 -0.076 1.46				4		0.05 0.15	0.45	-
5	-0.17 1.70 0.029 1.81				5 6		0.11	1.01 1.32]
Verification meth	ground based measurements intersatellite comparison								
	Coverag	je, resol	lutio	n and	l tin	reli	ness		
Spatial coverage	Spatial resolu		Vertical resolution			Timeline	Timeliness		
Global	(90 km) ²					N/A			

CM-139 Free T	ropos	pheric Hum	idity	FTH_	Meteosat_disk_DS		
Туре		Dataset					
Applications and users	:	* Climate Re	search				
Characteristics and Methods		3-hourly Monthly Mean					
Comments	!	Time series from 01.07.1983-30.11.2009. CSR data record as auxiliary product. LMD processed the CSR for the period July 1983 - June 2005, CM SAF from July 2005 - June 2008. The data record does not contain the METEOSAT-6 period (March 1997 - May 1998) and July 2005					
Traceability of Requirements							
Generation frequency	ı	N/A					
Input satellite data		MVIRI, SEVI	RI				
	<u> </u>	Dissemi	nation				
Format		Means		Type			
Netcdf CF	FTP			offline			
		Accui	racy				
bias: -2.9%, rmsd: 15 decadal stability: 0.5±		ó					
Verification method with the ARSA radiosondes data record							
Co	veraç	je, resolutio	on and	timeliness			
Spatial coverage		Spatial resolution	Vertica resoluti	-	Timeliness		
Meteosat disk covering N/S and ±45° W/E	j ±45°	(0.625°)²			N/A		



Service Specifications

CM-06	Fraction	onal Clo	ud Cover	•		CFC_SEVIRI_disk_DS		
Туре	-		Data reco	Data record				
Applications and	d users			Research, , Private 8		Ss, Government lic Sector		
Characteristics	Characteristics and Methods			ourly, Da Irnal Cycle		Monthly Mean, Monthly		
Comments			Time seri	ies from 0	1.01	.2004-31.12.2011		
Generation freq	uency		N/A					
Input satellite o	lata		SEVIRI					
Dissemination								
Format			Means			Туре		
netcdf CF (Leve hdf5 (level 2)	el 3)	FTP			offline			
		-	Accui	асу				
Bias 2.7 %,(SY) RMS: 14.0 % (S				Bias 1.7 % (MODIS) RMS: 8.8 % (MODIS)				
Verification met	thod	consiste	sons with SYNOP and complemented with ency checks against MODIS and t/CALIPSO datasets					
	Co	verage,	resolutio	on and ti	melii	ness		
Spatial coverage	Spatial resolution			Vertical resolution	on	Timeliness		
Meteosat disk	(0.05)	esolutior ² level 3 ² diurnal		n/a		N/A		

CM-12	loint Cl	oud	Histogra	me		JCH SEVIRI disk DS	
Туре	Joint Ci	ouu	Dataset	1113		Jen_Seviki_disk_DS	
Applications ar	nd users			Research			
Characteristics and Methods			Monthly I cloud opt This prod CPH (CM-	Monthly histograms of Cloud top pressure and cloud optical depth This product is a combination of COT (CM-35), CPH (CM-39) and CTO (CM-18) and depends on the accuracy of these products.			
Comments			Time seri	es from 0:	1.01.	2004-31.12.2011	
Generation fre	N/A						
Input satellite data			CTO (CM-18), CPH (CM-39), COT (CM-35)				
			Dissen	nination			
Format	t		Mean	S	Туре		
netcdf CF		FTP			offline		
		_	Accı	uracy			
N/a		N/a			N/a		
Verification me	ethod						
	Cov	erag	e, resolut	ion and t	imel	iness	
Spatial coverage	Spatial	Spatial resolution			1	Timeliness	
Meteosat disk <72° satellite zenith angle	(0.25°) ²	2		n/a		N/A	



Service Specifications

CM-18 CI	oud Top)			СТО_	SEVIRI_DS	
Туре		Dataset					
Applications and us	* Climate F agencies, F		,	MHSs, Governme blic Sector	ent		
Characteristics and Methods	Mean and I	Month Temp	ly Mea eratur	ly, Daily Mean, M an Diurnal Cycle re (CTT), Cloud T sure (CTP)	for:		
Comments	Time series	from	01.0	1.2004-31.12.20	11		
Input satellite data	SEVIRI						
		Dissem	inati	on			
Format		Means	Means		Туре		
netcdf CF (Level 3) hdf5 (level 2)	FTP			offline			
	•	Accı	ıracy				
Bias: -646.92 m, -1 Bias: -687.2 m, -1 Bias: -83.2 m, -1.3	1.6 % (0	CALIOP)	ALIOP) stdv: 2149.1 m (CALIOP)				
Verification method		Validation against Cloudnet, Cloudsat/Calipso; comparison against MODIS					
	Covera	ge, resolut	ion a	nd tir	meliness		
Spatial coverage	Spatial	patial resolution			cal resolution	Timeliness	
Meteosat disk	Pixel resolution. level 2 (0.05) ² level 3 (0.25) ² diurnal cycle					N/A	

CM-35	Clou	d Op	tical Thicknes	ss	CO	T_SEVIRI_disk_DS		
Type	-		Dataset					
Applications and users			* Climate Res * NMHSs * Governmen		cies			
Characteristics Methods		Level 2 hourly Daily Mean Monthly Mean Monthly Mean		al Cycle				
Comments		Time series fr	om 01.	.01.2004-31.	12.2011			
Generation free	quenc	у	N/A					
Input satellite		SEVIRI						
Dissemination								
Format			Means			Type		
netcdf CF (Leve hdf5 (level 2)	el 3)	FTP	offline					
			Accu	racy				
bias: 9.9 % rms: 32.4 %								
Verification me	thod	Com	parison with M	ODIS				
_		Cove	rage, resoluti	on an	d timelines	5		
Spatial coverage	Spatial resolution			Vertic	al resolution	Timeliness		
Meteosat disk <72° satellite zenith angle	(0.0	5)² le	lution. level 2 vel 3 urnal cycle	n/a	N/A			



Service Specifications

CM-39	Clou	d Ph	ase		СР	H_SEVIRI_disk_DS			
Туре	-		Dataset						
Applications and users			* Climate Res * NMHSs * Governmen		cies				
Characteristics and Methods			,	,					
Comments			Time series fr	om 01.	.01.2004-31.	12.2011			
Generation frequency			N/A						
Input satellite data			SEVIRI						
			Dissem	inatio	n				
Format			Means			Type			
netcdf CF (Leve hdf5 (level 2)	el 3)	FTP	offline						
			Accu	ıracy					
bias: -0.03 (MC rms: 0.11 (MO									
Verification me	thod	• Co	mparison with	MODIS	3				
	(Cove	rage, resolut	ion an	d timelines:	S			
Spatial coverage	Spat	ial re	solution	Vertic	al resolution	Timeliness			
Meteosat disk <72° satellite zenith angle	(0.0	Pixel resolution. level 2 0.05) ² level 3 0.25) ² diurnal cycle				N/A			

CM-44	Liqu	id W	ater Path		LWP_S	SEVIRI_disk_DS			
Type	<u>-</u>		Dataset						
Applications and users			* NMHSs	* Climate Research * NMHSs * Government agencies					
Characteristics Methods		Daily Mean Monthly Mean	Level 2 hourly Daily Mean Monthly Mean Monthly Mean Diurnal Cycle						
Comments			Time series fr	om 01	.01.2004-31.1	2.2011			
Generation free	quenc	ЗУ	N/A	N/A					
Input satellite data			SEVIRI	SEVIRI					
			Dissemi	natior	1				
Format			Means		٦	Гуре			
netcdf CF (Level hdf5 (level 2)	el 3)	FTP			offline				
		ë.	Accur	асу					
bias: -0.3 % (N rms: 33.6 %	4ODI:	S), -1	7 % (SSM/I)						
Verification me	thod	Com	parison with M	ODIS a	and LWP from	SSM/I			
	C	over	age, resolutio	on and	l timeliness				
Spatial coverage	Spatial resolution			Vertic	al resolution	Timeliness			
Meteosat disk <72° satellite zenith angle	(0.0)	5)² le	lution. level 2 evel 3 iurnal cycle			N/A			



Service Specifications

CM-46	Ice V	Vate	er Path			IWP	SEVIRI	disk	ds
Туре	-		Dataset			_			
Applications and users			* Climate Rese * NMHSs * Government						
Characteristic Methods	s and		Level2 hourly Daily Mean, Mo Cycle	Daily Mean, Monthly Mean, Monthly Mean Diurnal					
Comments			Time series fro	m 01	L.01.2004-	31.12	2011		
Generation from	equen	су	N/A						
Input satellite	data		SEVIRI	VIRI					
Dissemination									
Format			Means		T	ype			
netcdf CF (Le hdf5 (level 2)		FT	P Offline						
			Accı	ırac	У				
bias: -6.2 % rms: 37.8 %									
Verification method	(Com	nparison with Mo	ODIS	;				
	(Cov	erage, resolut	ion a	and timeli	ness			
Spatial coverage	Spati	Spatial resolution			tical olution	Timel	iness		
Meteosat disk <72° satellite zenith angle	(0.05)2	olution. level 2 evel 3 diurnal cycle			n/a			

	Surfa radia		coming	shortwa	/e	SIS_SEVIRI_disk_DS		
Туре	=		Dataset					
Applications and u		* NMHS: * Gover: * Private	* Climate Research * NMHSs * Government agencies * Private Sector * Public Sector					
Characteristics an	nods	Daily Me Monthly						
Comments		time ser	ies from 0	1.01	.12006-31.12.2011			
Generation freque		N/A						
Input satellite dat	a		SEVIRI/GERB					
			Dissen	nination				
Format			Means			Type		
netcdf CF		FTP,	CD-ROM o		offlir	offline		
			Accı	ıracy				
Absolute bias: 7.2 W/m² monthly 14.8 W/m² daily n	/ mear nean	าร						
Verification metho	bd	com	parison v	vith in-situ	BSR	N measurements		
	Cove	age	, resolut	ion and t	imel	iness		
Spatial coverage	Spatia	al res	solution	Vertical resolution		Timeliness		
Meteosat disk	(0.05	°)²				N/A		



Service Specifications

CM-61	Surf	ace A	lbedo			SAL_SEVIRI_disk_DS		
Туре	-		Dataset					
Applications and users			* Climate * NMHSs * Governr	Research	cies			
Characteristics and Methods			pentad Me Monthly M					
Comments			Time serie	es from 01.	01.20	004-31.12.2011		
Generation free	quenc	У	N/A					
Input satellite	data		SEVIRI					
			Disse	mination				
Format			Means	5		Type		
netcdf CF		FTP,	CD-ROM		offlir	offline		
			Acc	curacy				
Threshold			Targe	t		Optimal		
50% (relative)		25%	(relative)		20%	(relative)		
Verification me	thod		ation at mo	ation at mast measurement sites & field paigns				
_	Co	vera	ge, resolu	ition and	timel	iness		
Spatial coverage	Spat	ial resolution		Vertical resolution		Timeliness		
Meteosat disk	(0.0	5) ²	<u></u>			N/A		

CM-68		ace N ation	let Shortv	vave		SNS_SEVIRI_disk_DS		
Туре			Dataset	Dataset				
Applications and users			* Climate * NMHSs * Governr	Research	cies			
Characteristics Methods	and		Monthly M	lean				
Comments			time serie	s from 01.	01.12	006-31.12.2011		
Generation frequency			N/A					
Input satellite	lata		SEVIRI/G	ERB				
			Diss	emination				
Format			Means			Type		
netcdf CF		FTP,	CD-ROM		offline			
			Accuracy					
4.38 W/m ²								
Verification me	thod	calcu (SIS	llated based on accuracy of CM-61 (SAL) and CM-53					
	С	over	age, reso	ution and	time	eliness		
Spatial coverage	Spat	tial resolution		Vertical resolution		Timeliness		
Meteosat disk	(0.0!	5°) ²	·			N/A		



Service Specifications

CM-75	Surfa Radia		utgoing	Longwav	е	SOL_SEVIRI_disk_DS		
Туре	-		Dataset	Dataset				
Applications and users			* NMHSs	e Research Iment age				
Characteristics an	ods	Monthly	Mean					
Comments			time seri	ies from 0	1.01.	12006-31.12.2011		
Generation frequency			N/A					
Input satellite dat	a		NWP (SEVIRI)					
			Dissem	ination				
Format			Means			Type		
netcdf CF		FTP,	P, CD-ROM of			ffline		
			Accı	ıracy				
Absolute bias: 4.3	W/m ²							
Verification metho	od	com	parison with in-situ BSRN measurements					
	Coverage, resolution and timeliness							
Spatial coverage	Spatia	al res	olution	Vertical resolution	1	Timeliness		
Meteosat disk	(0.05	°)²				N/A		

CM-82		ace D	ownward	Longwav	е	SDL_SEVIRI_disk_DS			
Туре	•		Dataset	ataset					
Applications and users			* NMHSs	* Climate Research * NMHSs * Government agencies					
Characteristics and Methods			Monthly M	lean					
Comments			time serie	time series from 01.01.12006-31.12.2011					
Generation frequency			N/A						
Input satellite of	Input satellite data			SEVIRI					
			Disse	mination					
Format			Means	5		Type			
netcdf CF		FTP,	CD-ROM offlir			ne			
			Ac	curacy					
Absolute bias: 9	9.6 W	/m²							
Verification me	thod	comp	oarison wit	h in-situ BS	SRN n	neasurements			
	Coverage, resolution and timeliness								
Spatial coverage	Spat	ial resolution		Vertical resolution		Timeliness			
Meteosat disk	(0.0	5°)²				N/A			



Service Specifications

CM-89	Surf	ace N	let Longw	ave Radia	tion	SNL_SEVIRI_disk_DS		
Туре			Dataset					
Applications an	d use	rs	* Climate * NMHSs * Governr	Research	cies			
Characteristics Methods	and		Monthly M	lean				
Comments			time serie	s from 01.0	01.12	006-31.12.2011		
Generation frequency			N/A					
Input satellite data			SEVIRI					
			Diss	eminatior	1			
Format			Means			Type		
netcdf CF		FTP,	CD-ROM offlin			ie		
			Α	Accuracy				
Absolute bias:	12 W/	m ²						
Verification me	thod	calcu (SDL	ulated based on accuracy of CM-75 (SOL) and CM-82					
	(Cove	age, reso	lution and	l time	eliness		
Spatial coverage	Spat	ial re	solution	Vertical resolution		Timeliness		
Meteosat disk	(0.0	5°)²				N/A		

CM-96	Surfa	ace Ra	adiation Bu	ıdget		SRB_SEVIRI_DS		
Туре	-		Dataset	Dataset				
Applications and	l users	i	* Climate F * NMHSs * Governm	Research ent agencie	es			
Characteristics and Methods			Monthly Me	ean				
Comments			time series	from 01.01	.1200	06-31.12.2011		
Generation frequency			N/A					
Input satellite d	ata		SEVIRI					
			Dissem	ination				
Format			Means			Type		
netcdf CF		FTP,	CD-ROM		offline			
			Accuracy					
Absolute bias: 1	.6 W/n	1 ²						
Verification met	hod	calcu 68 (S	llated based on accuracy of CM-89(SNL) and CM- SNS)					
	Co	verag	e, resoluti	on and tim	eline	SS		
Spatial coverage	Spati	al res	olution	Vertical resolution		Timeliness		
Meteosat disk	(0.05	5°)²				N/A		



Service Specifications

CM-102	Cloud	d Rad	iative Effe	ct SW		CFS_SEVIRI_DS		
Туре	-		Dataset	Dataset				
Applications and users			* Climate Research * NMHSs * Government agencies * Private Sector * Public Sector					
Characteristics and Methods			Monthly M	ean				
Comments			time series	from 01.01	.1200	06-31.12.2011		
Generation frequency			N/A					
Input satellite da	ata		SEVIRI/GERB					
			Dissen	nination				
Format			Means			Type		
netcdf CF		FTP,	ΓP, CD-ROM			offline		
			Accı	ıracy				
Absolute bias: 7	W/m ²							
Verification meth	nod	calcu 61, S	lated from radiation products (CM-53, SIS and CM-SAL)					
	Co	vera	ge, resolut	ion and tin	neline	ess		
Spatial coverage	Spati	al res	olution	Vertical resolution		Timeliness		
Meteosat disk	(0.05	5) ²				N/A		

CM-103	Cloud	d Rad	iative Effe	ct LW		CFL_SEVIRI_DS		
Туре	-		Dataset					
Applications and users			* Climate I * NMHSs * Governm * Private S * Public Se	nent agencie Sector	s			
Characteristics and Methods			Monthly Me	Monthly Mean				
Comments			time series	time series from 01.01.12006-31.12.2011				
Generation frequency			N/A					
Input satellite da	ata		SEVIRI/GE	RB				
			Dissen	ination				
Format			Means			Туре		
netcdf CF		FTP,	CD-ROM		offlin	offline		
			Accı	ıracy				
Absolute bias: 4	.1 W/r	n ²						
Verification meth	nod	calcu	lated from i	radiation pro	ducts	and CM-06 (CFC)		
Coverage, resolution and timeliness								
Spatial coverage	Spati	al res	olution	Vertical resolution		Timeliness		
Meteosat disk	(0.05	o) ²				N/A		



Service Specifications

CM-105	Direc	t Irra	diance at	Surface	SID_SEVIRI_DS			
Туре	-		Dataset					
Applications and users			* Climate Research * NMHSs * Government agencies * Private Sector * Public Sector					
Characteristics a Methods	ind		Daily Mean Monthly Mean					
Comments			time series	time series from 01.01.12006-31.12.2011				
Generation frequ	iency		N/A					
Input satellite da	ata		SEVIRI					
		•	Dissemir	ation				
Format			Means	5	Type			
netcdf CF		FTP	of			e		
		•	Accura	асу				
Absolute bias: 11.0 W/m² mont 20.2 W/m² daily	hly m mean	ean						
Verification meth	nod	comp	arison with	in-situ mea	suren	nents		
	Cov	erage	, resolutio	n and time	lines	s		
Spatial coverage	Spati	al reso	olution	Vertical resolution		Timeliness		
Meteosat disk	(0.05	5°) ²				N/A		

CM-107	CM-107 Spectrally Resolved Irradiance SRI_MVIRI_SEVIRI_DS									
Туре		D	ataset							
Applications	and u	sers *	Medicine i	e me meteo	teorology (e	_	,			
Characteristic Methods	cs an	d D	aily and M	and Monthly Mean.						
Comments		Ti	ime series	01.0	1.1991-31.1	2.201	1			
Generation fr	eque	ncy N	/A							
Input satellit	VIRI conti	/IRI continued with SEVIRI								
Dissemination										
Format			Means Type							
Netcdf CF		FTP			Offline					
		-	P	Accur	асу					
Relative bias < 5 %, for sp < 12% for sp	ectra				1					
Verification method		Compa	rison with	grou	nd based da	ta as	far as av	vailable		
		Cove	rage, reso	olutio	on and time	elines	s			
Spatial coverage	Spat reso	ial lution	Spectr	Spectral resolution		ion Timeliness				
Meteosat disk	0.05	° x 0.0!	5° 20¹ Ka and NI		nds in VIS ectrum	N/A				

¹ For definition of Kato bands see Kato et al. [1999].



Service Specifications

CM-109	Dayli	ght				DAL_SEVIRI_DS		
Туре	-		Dataset	Dataset				
Applications and users			* NMHSs * Governm * Private S	* Climate Research * NMHSs * Government agencies * Private Sector * Public Sector				
Characteristics a Methods	and		Daily Mean Monthly Me					
Comments			time series	time series from 01.01.2006-31.12.2011				
Generation frequency			N/A					
Input satellite d	ata		SEVIRI/GE	RB				
			Dissem	ination				
Format			Means	5	Type			
netcdf CF		FTP	of			offline		
			Accu	racy				
Absolute bias: 2	.0 W/r	n²						
Verification met	hod		parison with in-situ measurements, only one on was available for validation					
	Cov	verag	je, resoluti	on and tim	eline	SS		
Spatial coverage	Spati	al res	olution	Vertical resolution		Timeliness		
Meteosat disk	(0.05	o) ²				N/A		

CM-110	Dayli	ght				DAL_MVIRI_DS		
Туре	-		Dataset					
Applications and users			* NMHSs * Governm * Private S	* Climate Research * NMHSs * Government agencies * Private Sector * Public Sector				
Characteristics and Methods			Daily Mean Monthly Me					
Comments			time series	from 01.01	.1983	-31.12.2005		
Generation frequency			N/A	N/A				
Input satellite da	ita		MVIRI					
			Dissem	ination				
Format			Means		Туре			
netcdf CF		FTP		offline				
			Accu	racy				
Absolute bias: 2.	0 W/n	n²						
Verification meth	od		parison with in-situ measurements, only one station available for validation					
	Coverage, resolution and timeliness							
Spatial coverage	Spati	ial resolution		Vertical resolution		Timeliness		
Meteosat disk	(0.05	°) ²				N/A		



Service Specifications

CM-21012 SI	EVIRI Fract	ional Cloud	Cover ICDR	CF	C_SEVIRI_disk_DS_R3		
Туре		Data record					
Applications ar	nd users	Climate Rese	earch & Climate M	lode	elling		
Characteristics Methods	s and	level2 full te	mporal resolution				
Record length	/ Period	Jan 2004 – 3	31. December 201	12			
Comments		Needed for a consistent LSA and OSI SAF CDR processing and based on LSA and OSI SAF requirements. Based on NWC SAF MSGv2012, time-dependent 15 min. processing					
Traceability of Requirements							
Input satellite	data	SEVIRI (repr	rocessed CAF vers	sion)		
		Diss	emination				
Format		Means			Туре		
Hdf5		FTP, WEB			offline		
		A	ccuracy				
Cloud POD: 0.	946 ± 0.008	for CALIOP	and 0.902 ± 0.0	11	for CPR		
Verification me	ethod	comparison	against CALIPSO	data	asets		
	Coverage, resolution and timeliness						
Spatial coverage	Snatial resolution		Vertical resolution	Tin	neliness		
Meteosat disk	Pixel resoluti	ion level 2	n/a	N/A	Α		

CM-23081	Meteosat C	loud Albed	lo TCDR		CAL_MVIRI_SEVIRI_DS_R1		
Туре	-	Dataset					
Applications an	d users	* Climate r (DWD,EUR) * Climate c * Developn	O4M) thange analys nent agencies ral planning a	ion a sis (W s (GTZ	nd development MP-RCC,EURO4M)		
Characteristics Methods	and	hourly, dail	ly and monthl	ly me	ans		
Record length ,	/ Period	1983-2012					
Comments		Processing chain exists at MeteoSwiss, integration to DWD system needed. Moreover, improvement of algorithms and used atmospheric input will be performed					
Traceability of Requirements		SAF/CM/DV	WD/RR2.1 v 1	1 da	ted 05.07.2013		
Input satellite	data	MVIRI/SEVIRI (Rectified digital pixel counts)					
		Dis	semination				
Format		Means			Туре		
Netcdf CF		FTP, Web			offline		
			Accuracy				
0.1 for monthly latitudes above					of the winter period for ght occur		
Verification me	thod	accuracy estimated based on derived SIS accuracy					
	Cove	erage, reso	olution and	time	eliness		
Spatial coverage	Spatial resol	ution	Vertical resolution	Tim	eliness		
Meteosat disk	(0.05°) ²	<u>-</u>	n/a	N/A			



Service Specifications

CM-23201		at Solar Su on TCDR	urface SIS_	MVIF	RI_SEVIRI_DS_R1	
Туре	-	Dataset				
Applications and users		Climate impact analysis (DWD,EURO4M,PIK) Climate model evaluation and development (DWD, EURO4M) Climate change analysis (WMO-RCC,EURO4M) Development agencies (GTZ) agricultural planning and drought risk assessment (GTZ, Univ. Bologna);Solar energy (JRC,BSW,ISET)				
Characteristics and M	ethods	hourly, da	ily and monthl	/ mea	ns	
Record length / Period	d	1983-2012	2		·	
Comments						
Traceability of Require	SAF/CM/DWD/RR2.1 v 1.1 dated 05.07.2013					
Input satellite data		MVIRI/SEVIRI (Rectified digital pixel counts)				
		Dissemi	nation			
Format		Means			Туре	
Netcdf CF		FTP, Web			offline	
		Accur	асу			
Daily: Acc. (MAB) 12. Monthly: Acc. (MAB): Dec. stab.vs BSRN sta	5.5 W/m		ecade)			
Verification method		comparison with BSRN ground measurements				
(Coverage	, resolutio	on and timelin	iess		
Spatial coverage	Spatial r	esolution	Vertical resolution	Tim	eliness	
Meteosat disk	(0.05°) ²		n/a	N/A		

CM- 23231	ON MATERIAL DESCRIPTION OF DELICATION OF DEL									
Туре		Dataset	Dataset							
Application	ns and users	Climate impact analysis, Climate model evaluation and development , Climate change Development agencies , Agricultural planning and drought risk assessment, Solar energy								
Characteri Methods	stics and	hourly, da	ily and mont	hly n	neans					
Record len	gth / Period	1983-2012	2							
Comments										
Traceabilit Requireme		SAF/CM/DWD/RR2.1 v 1.1 dated 05.07.2013								
Input sate	llite data	MVIRI/SE\	/IRI (Rectifie	d dig	ital pixel counts)					
		Dis	semination							
Format		Means			Туре					
Netcdf CF		FTP, Web		offline						
		Accuracy								
Daily Accuracy (MAB) 34.0 W/m ² Monthly Acc. (MAB) 17.5 W/m ²										
Verification method comparison with ground measurements										
	Cov	erage, res	olution and	time	eliness					
Spatial coverage	Spatial resol	ution	Vertical resolution	Time	eliness					
Meteosat disk	(0.05°) ²		n/a	N/A						



Service Specifications

CM- 12001	licrowave Radia	nce FCD	R R2		FCDR_SSMI_DS_R2
Туре		Dataset			
Application	s and users	* NMS and reanalyses for assimilation * Validation of (climate) models * Basis for TCDR products (from CM SAF, OSI SAF) * Of interest to the soil moisture community			
Characteris	tics and Methods	swath-ba	ased product, ir	mag	er channels similar to SSM/I
Record leng	gth / Period	1987-20	13		
Comments		Verification might not cover full period. Accuracy is given for global means. The SSM/I like FCDR also covers land areas. However, the viewing angle correction is not applied here, and due to likely larger temperature ranges the uncertainty might be increased.			
Traceability	of Requirements	Ohring et al. 2005; SAF/CM/DWD/RR/2.3; v 1.1 dated 18.12.2013			
Input satell	lite data	SSM/I, SSMIS			
		Dis	semination		
Format		Means			Туре
Netcdf4 CF		FTP, WEB			offline
		A	ccuracy		
Accuracy (b decadal sta	,	ecade for all channels			
Verification	method	Inter-sensor comparison			
	Covera	age, resolution and timeliness			
Spatial coverage	Spatial resolution	า	Vertical resolution	Tin	neliness
global	sensor resolution		n/a	N/A	4

CM-21011 S	EVIRI Fract	ional C	Cloud Cove	er ICDR CFC	_SEVIRI_disk_DS_R2	
Туре			Dataset			
Applications a	nd users		Climate Ro Agencies	esearch & NM	HSs & Governm.	
Characteristic	s and Method	ds			colution), daily mean, mean diurnal cycle	
Record length	/ Period		2004-201	5		
Comments			Contains a	as additional la	ayer: cloud type	
Traceability of	f Requiremer	its	SAF/CM/C 13.06.201		RR 2.4 v 1.2 dated	
Input satellite	data		SEVIRI (M	ISG-1, MSG-2	, MSG-3)	
		ı	Dissemina	tion		
Format			Means		Type	
Netcdf4 CF (le	evel 2 and 3)		FTP, WEB		offline	
			Accurac	су		
Bias: ≈ 3% (0	CALIOP), 3.8	% (SYI	NOP) -1.1	% (MODIS)		
L2 PODcld: 87 L2 FARcld: 16 L3 bc-rms: 10	.9% (CALIO	9)	% (MODIS)	1		
Verification m	ethod	3: prin	2: comparison against CALIPSO datasets, level marily comparisons with SYNOP but emented with consistency checks against S and Cloudsat/CALIPSO datasets			
	Cove	rage, r	esolution	and timeline	ess	
Spatial coverage	Spatial reso	Spatial resolution			Timeliness	
Meteosat disk	Pixel resolution level 2 (0.05) ² level 3 (0.25) ² monthly mean diurnal cycle			n/a	N/A	



Service Specifications

CM-21021 Join	t C	oud	Histogr	ams		JCH_SEVIRI_disk_DS_R2	
Туре			Dataset				
Applications and u	user	S	* Climate	e Researd	h		
Characteristics and Methods		Monthly histograms of Cloud top pressure and cloud optical depth This product is a combination of COT (from CM-21051), CPH (CM-21041) and CTO (CM-21031) and depends on the accuracy of these products.					
Record length / Pe	erio	d	Time ser	ies from	2004	1-2015	
Traceability of requirements			SAF/CM/CDOP2/KNMI/RR2.4 v1.2, dated 13.06.2014				
Generation freque	ency	r	N/A				
Input satellite data			CTO (CM-21031), CPH (CM-21041), COT (from CM-21051)				
			Diss	eminati	on		
Format			Means			Туре	
Netcdf4 CF		FTP			offli	ne	
			А	ccuracy			
N/a (depends on CTO (CM-21031).		accu	racy of C	OT (CM-2	105	1), CPH (CM-21041) and	
Verification method							
	Co	vera	ge, reso	lution a	nd ti	imeliness	
Spatial coverage		oatial solution		Vertical resolutio	n	Timeliness	
Meteosat disk <84° satellite zenith angle	(0.	(0.25°) ²		n/a		N/A	

CM-21031 S	EVIRI	Cloud	Top Level ICDR	(CTO_SEVIR	RI_DS_R2	
Туре		Dataset					
Applications an users	d		nate Research, NMHSs & Government Agencies, ate & Public Sector				
Characteristics Methods	and		(full temporal resolution				
Record length		2004-2	2015				
Comments		Requirements are specified for CTH and CTP (as bia and bc-rms). No requirements are specified for CTT this parameter represents the same information in different units.					
Traceability of Requirements						06.2014	
Input satellite data SEVIRI (MSG-1, MSG-2, MSG-3)							
Dissemination							
Format			Means		Туре		
Netcdf4 CF (level 2 and 3)			FTP, WEB		offline		
			Accuracy				
CTH (bias):-520 m (CALIOP), 307 m (MODIS) CTH, L2 bc-rms: 2398 m (CALIOP) CTH, L3 bc-rms: 949 m (MODIS) CTP (bias):-2.2 hPa (CALIOP), -58.6 hPa (MODIS) CTP, L2 bc-rms: 62.7 hPa (MODIS) CTP, L3 bc-rms: 134.1 hPa (CALIOP)							
Verification method comparisons with MODIS retrievals as well as CloudSat/CALIPSO, EarthCARE will be considered							
	Cov	/erage	, resolution and time	eline	:SS		
Spatial coverage	Spatia	l resolu	tion	_	tical olution	Timelines s	
Meteosat disk	$(0.05)^{2}$	resolution level 2 5) ² level 3 5) ² monthly mean diurnal cycle				N/A	



Service Specifications

CM-21041 SEVIR	I Cloud P	hase ICDR R2		CPH_SEV	IRI_DS_R2	
Type		Dataset				
Applications and user	Ś	Climate Research Private & Public S		& Governmer	nt Agencies,	
Characteristics and M	lethods	level2 (full tempo monthly mean, m				
Record length / Perio	d	2004-2015				
Comments						
Traceability of Requir	rements	SAF/CM/CDOP2/k	(NMI/RR	24 v1.2 dated	13.06.2014	
Input satellite data		SEVIRI (MSG-1, I	MSG-2, N	MSG-3)		
Dissemination						
Format	Means		Туре			
Netcdf CF (lev 3), Hd	f5 (lev 2)	FTP, WEB		offline		
Accuracy						
Bias: ≈ 0% (CALIOP)), 1% (MOI	DIS)				
L2 PODliq: 85.5 % (CL2 FARliq: 10% (CALL2 PODice: 88.9% (CL2 FARice: 16% (CALL3 bc-rms:8.7 % (MC	IOP) CALIOP) LIOP)					
Verification method	-	comparison with MODIS (2004-2014), comparison with Cloudsat/Calipso (2007-2014, level-2, selected months)				
	Coverage	e, resolution and	l timelir	ness		
Spatial coverage	Spatial res	solution	Vertica	al resolution	Timeliness	
Meteosat disk (day and night)	$(0.05)^2$ le	onthly mean	n/a		N/A	

CM-21051 SI	EVIRI Li	quid '	Water Path ICDR	L	.WP_S	SEVIRI_DS_R2	
Туре			Dataset				
Applications an	d users		Climate Research, NMH Agencies, Private & Pub			ment	
Characteristics	and Meth	nods	level2 (full temporal resolution), daily mean, monthly mean, monthly mean diurnal cycle, 1D histograms				
Record length /	Period		2004-2015				
Comments			Contains as additional layers: COT (cloud optical thickness), REFF (particle effective radius), and H scene heterogeneity measure)				
Traceability of Requirements			SAF/CM/CDOP2/KNMI/RR24 v1.2 dated 13.06.2014				
Input satellite data			SEVIRI (MSG-1, MSG-2, MSG-3)				
			Dissemination				
Format			Means	Тур			
Netcdf CF (leve Hdf5 (level 2)	l 3)		FTP, WEB offlin			ne	
			Accuracy				
Bias: 6.17 g m-	-2 (UWiso	c), 2.0	05 g m-2 (MODIS)				
L2 bc-rms: 34 g L3 bc-rms : 11) sc), 6.50 g/m² (MODIS)				
Verification me	thod		parison with satellite-based MWR retrieved LWP ocean (e.g. LWP_HOAPS), comparison with MODIS				
	Co	verag	e, resolution and time	lines	s		
Spatial coverage	Spatial	resolu	tion	Vertice resolu		Timeliness	
Meteosat disk <84° satellite zenith angle	$(0.05)^2$	on level 2 3 hly mean diurnal cycle	n/a		N/A		



Service Specifications

CM-21061 SEVIR	I Ice	Wat	er Path ICDF	R R2	IWP_	_SEVIRI_	_DS_	_R2
Туре		Dataset						
Applications and user	rs		Climate Rese Agencies, Pri					
Characteristics and M	1etho	ds	level2 (full temporal resolution), daily mean, monthly mean, monthly mean diurnal cycle, 1D histograms					
Record length / Perio	od		2004-2015					
Comments			Contains as additional layers: COT (cloud optical thickness), REFF (particle effective radius) , and H_{σ} (scene heterogeneity measure)					
Traceability of Requir	remei	nts	SAF/CM/CDO	P2/RR/24 v1	2 date	d 13.06.2	2014	
Input satellite data			SEVIRI (MSG	-1, MSG-2, I	MSG-3)			
			Dissemination					
Format			Means		Туре			
Netcdf CF (level 3) Hdf5 (level 2)			FTP, WEB	offline				
			Accuracy					
Bias: -5.11 g/m² (MC L3 bc-rms: 14.82 g/r			5)					
			parison with CloudSat (2007-2014, level-2, cted months), comparison with MODIS (2004-4)					
	Cove	rage	, resolution	and timelin	ess			
Spatial coverage	Spat	ial re	solution	Vertical resolution	Timelii	ness		
Meteosat disk <84° satellite zenith angle	(0.0)	5)² le	onthly mean	n/a	N/A			



Service Specifications

CM- 12002 Microwave Radia	nce FCDR R3	FCDR_SSMI_DS_R3			
Туре	Dataset				
Applications and users	* NMS and reanalyses for assimilation * Validation of (climate) models * Basis for TCDR products (from CM SAF, OSI SAF) * Of interest to the soil moisture community				
Characteristics and Methods	swath-based product, imag	er channels similar to SSM/I			
Record length / Period	1979-2015				
Comments	The dataset contains existing unchanged elements CM-150 (SSM/I) and CM-12001 (SSMIS). Addit processed data: SSMIS temporal extension an SMMR full period with unchanged baseline algoverification might not cover full period. Consistency is given as the total uncertainty of glomonthly means for differences to the selected reference. The SSM/I like FCDR also covers land areas. Howe the viewing angle correction is not applied over and due to likely larger temperature ranges the uncertainty might be increased over land. SMMR quality might be reduced.				
Traceability of Requirements	Ohring et al. 2005; SAF/CM/DWD/RR/2.13; v1.	1 dated 19.02.2015			
Input satellite data	SSM/I (CM-150), SSMIS (CM-12001), SMMR (Pafthfinder L1b)				
	Dissemination				
Format	Means	Туре			
Netcdf4 CF	FTP, WEB	offline			
	Accuracy / Consistency				
Consistency: U < 1K Decadel stability: tD ≤ 0.03K/ significance ≥ 30% depending					
Verification method	Reanalysis and/or ground	-based observations and RT			
Covera	ge, resolution and time	liness			

Spatial coverage	Spatial resolution	Vertical resolution	Timeliness
global	sensor resolution	n/a	N/A



Service Specifications

		Reflected Solar A	II-SI	су	TRS_AS_MVIRI_GERB_SE VIRI_disk_DS	
Type		Dataset				
Applications and users	5	* Climate Researd * NMHSs * Government Ag		es		
Characterist and Method		daily mean, mont	:hly r	mean, m	nonthly mean diurnal cycle	
Record leng Period	th /	01.02.1982-30.04	4.20	15		
Comments						
Traceability Requiremen		SAF/CM/CDOP2/RMIB/GERB/RR2.6, v3.0, dated 24.12.2014				
Input satelli data	ite	MVIRI, SEVIRI				
		Diss	emi	nation		
Format		Means Type		Type		
Netcdf CF		FTP, WEB		offline		
		A	ccui	асу		
RMS error of MMDC accu	RMS error of the monthly mean: 3.6 W/m ² RMS error of the daily mean: 6.5 W/m ² MMDC accuracy: 11.0 W/m ² Stabilty: < 4 W/m ²					
Verification method		comparison with CERES/AVHRR. Accuracy at 1°x1° resolution.				
		Coverage, reso	luti	on and	timeliness	
Spatial coverage	Spat	tial resolution	Vertical resolution		Timeliness	
Meteosat disk	(0.0	5°)²	n/a		N/A	

CM- TOA Emitted Thermal All-Sky TET_AS_MVIRI_GERB_9 23341 Radiative Flux EVIRI_disk_DS_R						
Туре		Dataset				
Applications	and users	* Climate Research * NMHSs * Government Agencies				
Characterist Methods	tics and	daily me diurnal o	, ,	nea	n, monthly mean	
Record leng	th / Period	01.02.1	982-30.04.201	L5		
Comments						
Traceability Requiremen		SAF/CM/CDOP2/RMIB/GERB/RR2.6, v3.0, dated 24.12.2014				
Input satelli	ite data	MVIRI, SEVIRI (reprocessed CF version)				
		Dis	semination			
Format		Means			Type	
Netcdf CF		FTP, WEB			offline	
			Accuracy			
RMS error of the monthly mean 2.6 W/m ² RMS error of the daily mean: 4.2 W/m ² MMDC accuracy: 3.5 W/m ² Stabilty: < 4 W/m ² (except for Jan-March 1987 which are flagged)					ch are flagged)	
Verification	method	comparison with CERES/HIRS dataset/AVHRRAccuracy at 1°x1° resolution.				
	Cover	age, res	olution and t	ime	eliness	
Spatial coverage	Spatial reso	lution	Vertical resolution	Tin	neliness	
Meteosat disk	(0.05°)²	_	n/a	N/A	4	



Service Specifications

CM- 11011 AVHRR GAC Fractional Cloud Cover TCDR R2 CFC_AVHRR_g lobal_DS_R2						
Туре	Dataset					
Applications and users	Climate Research, NMHSs & Governm Agencies, Private & Public Sector	ent				
Characteristics and Methods	daily level2b files (per satellite in asc./desc. node), daily mean, monthly mean Method improvements concern mainly better detection of Cirrus and fractional low clouds in the sub-tropical region.					
Record length / Period	1982-2015					
The accuracy is defined as the mean error (i. defined in % cloud amount units) and precisi is defined as the bias-corrected RMS error. F polar areas products will be provided in EASE grid (5km for level2, 25 km for level3)).						
Traceability of Requirements	SAF/CM/DWD/RR2.2 v1.1dated 17.06	5.2014				
Input satellite data	AVHRR GAC					
	Dissemination					
Format	Means	Type				
Netcdf CF	FTP, Web	Offline				
	Accuracy					
monthly bias: -3.2 % CFC daily bias: -3.2 % bc-rms daily, monthly: 6.7 – 10 % Decadal stability: -1.3 %						
Primarily comparisons with SYNOP and Cloudsat/CALIPSO (2006-2013), consistency checks against MODIS, ISCCP and PATMOS-X. Validation results are shown separately for Polar winter region (above 70° latitude in S/N Hemispheric winter) where results may have some problems to meet the listed requirement during the Polar winter.						

Coverage, resolution and timeliness						
Spatial coverage	Spatial resolution	Vertical resolution	Timeliness			
Global	(0.05) ² level2b, (0.25) ² level3	n/a	N/A			



Service Specifications

		ud Histog			JCH_AVHRR_global_DS_R2	
Туре		Dataset				
Applications a	nd users	* Climat	e Researc	ch		
Characteristic Methods	cloud op This pro CM-110! 11031)	Monthly histograms of Cloud top pressure and cloud optical depth. This product is a combination of COT (from CM-11051), CPH (CM-11041) and CTO (CM-11031) and depends on the accuracy of these products.				
Comments		Time ser	ries from	19	82-2015	
Generation from	equency	SAF/CM/	SAF/CM/DWD/RR2.2 v1.1, dated 17.06.2014			
Input satellite	data		CTO (CM-11031), COT (from CM-11051), CPH (CM-11041)			
		Dis	seminati	ioi	n	
Forma	at	Means			Type	
Netcdf CF		FTP		offline		
		ı	Accuracy			
Thresho	old	Tar	get	Optimal		
n/a		n/a		n/a		
Verification method			•			
Coverage, resolution and timeliness					d timeliness	
Spatial coverage	Spatial resolution		Vertical resolutio	n	Timeliness	
Global (1°) ²			n/a		N/A	

	CTO AVIDD global DC D2						
Type	-	Dataset					
Applicatio	ns and users	Climate Research, Agencies, Private &					
Character Methods	istics and	daily level2b files (node), daily mean,					
Record le	ngth / Period	1982-2015					
Comment	S	CTT: no specific rec same information in					
Traceabili Requirem		SAF/CM/DWD/RR2	.2 v1	.1dated 1	7.06.2014		
Input sate	ellite data	AVHRR GAC					
		Dissemination	n				
Format		Means		Type			
Netcdf CF		FTP, Web		offline			
		Accuracy					
monthly, monthly, monthly, Decadal S	monthly, daily bias: 840 m monthly, daily bias: -56 hPA - 32.9 hPa monthly, daily bc-rms: 2380 m monthly, daily bc-rms: 11 - 88 hPa Decadal Stability: n/a decadal Stability: -4.0 hPa						
Verification	n method		omparison with ISCCP, PATMOS-X, MODIS 2000-2013), Cloudsat/Calipso (2007-2013)				
	Covera	ge, resolution and	d tin	neliness			
Spatial coverage	Spatial resolution	on	Vert	ical lution	Timeliness		
Global	(0.05)² level2b polar areas in E level2, 25 km fo	n/a		N/A			



Service Specifications

CM- 11041	AVHRR GAO	Cloud Phase	rcdr c	CPH_AVHRR_global_DS_R2	
Туре	-	Dataset			
Application	ns and users	* Climate Reserve * NMHSs * Government			
Characteri Methods	stics and	daily level2b file ascending/desc		lite and), daily mean, monthly mean	
Record len	gth / Period	1982-2015			
Comments	5				
Traceabilit Requireme		SAF/CM/DWD/RR2.2 v1.1dated 17.06.2014			
Input sate	llite data	AVHRR GAC			
		Disser	nination		
Format		Means		Туре	
Netcdf CF		FTP, Web		offline	
		Accuracy			
monthly, c	laily bias 0.03 laily bc-rms: ability: 0.016	0.06 - 0.16			
Verification	n method	comparison with ISCCP, PATMOS-X, MODIS (2000-2013), Cloudsat/Calipso (2007-2013)			
	Co	verage, resolu	tion and tin	neliness	
Spatial coverage	Spatial reso	Spatial resolution		Timeliness	
Global (day and night)	(0.05)² level2b (0.25)² level3 For polar areas products also provided in EASE-grid 25 km (level 3).		n/a	N/A	

CM- AVHRR GAC Liquid Water Path 11051 TCDR R2 LWP_AVHRR_global_DS_R2							
Туре	Dat	aset					
Applications and us		nate Research, NMI vate & Public Sector	HSs & Government Agencies,				
Characteristics and		y level2b files (per y mean, monthly m	satellite in asc./desc. node), nean				
Record length / Per	riod 198	32-2015					
Comments	thic Acc me reg and	Contains as additional layers: COT (cloud optical thickness) and REFF (particle effective radius). Accuracy requirements hold for global monthly mean all-sky LWP. Accuracies over the polar regions (very limited availability of daytime data and retrievals are made over snow/ice-covered conditions) are expected to be worse.					
Traceability of Req	uirements SAI	SAF/CM/DWD/RR2.2 v1.1dated 17.06.2014					
Input satellite data	AVI	AVHRR GAC					
		Dissemination					
Format	Me	ans	Туре				
Netcdf CF	FTF	, Web	offline				
	-	Accuracy					
monthly, daily bias monthly, daily bc-r Decadal Stability:	ms: 11 - 20 g	m-2 and -10 – 17 m-2	gm-2				
Verification method	ove	Validation with satellite-based MWR retrieved LWP over ocean, comparison with ISCCP, PATMOS-X, MODIS (2000-2013)					
	Coverage, i	esolution and tim	eliness				
Spatial coverage Spatial	resolution	Vertical resolution	Timeliness				
Global (0.05) ² (daytime) (0.25) ²	level2b, level3	n/a	N/A				



Service Specifications

_	AVHRR GAC	Ice Wate	er Path	IW	/P_AVHRR_global_DS_R2	
Туре		Dataset				
Application	s and users		esearch, NMF Public Sector		Government Agencies,	
Characteris Methods	stics and		2b files (per n, monthly m		lite in asc./desc. node),	
Record len	gth / Period	1982-201	5			
Comments		Contains as additional layers: COT (cloud optical thickness) and REFF (particle effective radius). Accuracy requirements hold for global monthly mean all-sky IWP. Accuracies over the polar regions (very limited availability of daytime data and retrievals are made over snow/ice-covered conditions) are expected to be worse.				
Traceabilit Requireme	•	SAF/CM/DWD/RR2.2 v1.1dated 17.06.2014				
Input sate	llite data	AVHRR GAC				
		Di	sseminatio	n		
Format		Means			Туре	
Netcdf CF		FTP, Web			offline	
		-	Accuracy			
monthly, d	laily bias: -0. laily bc-rms: ability: 2.7 -	20 - 31 gn	n-2 and -7.4 n-2	- 8.6	5 gm-2	
Verification	n method	Validation with Cloudsat/Calipso (2007-2013), comparison with ISCCP, PATMOS-X, MODIS (2000-2013)				
	Cov	erage, re	solution and	d tim	eliness	
Spatial coverage	Spatial resol	ution	Vertical resolution	Time	eliness	
Global (0.05)² level2b (daytime) (0.25)² level3			n/a	N/A		

CM- AVHRR GAC Surface Incoming SIS_AVHRR_global_DS_R2 11201 Shortwave Radiation TCDR R2						
Type	-	Dataset				
Applications and users		* Climate impact analysis (DWD,EURO4M,PIK) *Climate model evaluation and development (DWD,EURO4M) * Climate change analysis (WMO-RCC,EURO4M) * Development agencies (GTZ) * Agricultural planning and drought risk assessment (GTZ, Univ. Bologna) * Solar energy (JRC)				
Character	istics and Methods	monthly r	means, daily	mean	ıs	
Record lei	ngth / Period	1982-201	5			
Comment	S					
Traceabili	ty of Requirements	SAF/CM/DWD/RR2.2 v1.1dated 17.06.2014				
Input sate	ellite data	AVHRR GAC				
		Dissemi	ination			
Format		Means			Туре	
Netcdf CF		FTP, Web offline			offline	
		Accu	racy			
MAB daily:	hly: 9.5 W/m² 18.9 W/m² ability: 1.2 W/m²					
Verificatio	n method	comparison with BSRN				
	Coverage	, resoluti	on and time	lines	ss	
Spatial coverage	Spatial resolution		Vertical resolution	Time	eliness	
global	0.25x0.25 °		n/a	N/A		



Service Specifications

Type Dataset * Climate Research * NMHSs * Government Agencies pentad mean, monthly mean Topography correction is carried out for both geolocation and radiometry based on high-resolution DEM from SRTM where available and GEOTOPO30 elsewhere. Dynamic aerosol correction is foreseen be implemented based on indirect estimation of AC at 550 nm from UV-band satellite measurements of the atmosphere. Detailed descriptions will be made available in the PUM and ATBD of CM-11221. Record length / Period 1982-2015 Comments Traceability of Requirements SAF/CM/DWD/RR2.2 v1.1dated 17.06.2014 Input satellite data AVHRR GAC Dissemination Format Means Type Netcdf CF FTP, Web offline Accuracy mean relative retrieval error: -0.6 % Decadal stability: 8.5 % Comparison with surface measurements for difference	CM- 11221	SAI AVHDD global DS D2						
Applications and users * NMHSs * Government Agencies pentad mean, monthly mean Topography correction is carried out for both geolocation and radiometry based on high-resolutin DEM from SRTM where available and GEOTOPO30 elsewhere. Dynamic aerosol correction is foreseen be implemented based on indirect estimation of AC at 550 nm from UV-band satellite measurements of the atmosphere. Detailed descriptions will be made available in the PUM and ATBD of CM-11221. Record length / Period 1982-2015 Comments Traceability of Requirements SAF/CM/DWD/RR2.2 v1.1dated 17.06.2014 Input satellite data AVHRR GAC Dissemination Format Means Type Netcdf CF FTP, Web offline Accuracy mean relative retrieval error: -0.6 % Decadal stability: 8.5 % Comparison with surface measurements for differer regions + comparisons with albedo estimations from other platforms Coverage, resolution and timeliness Spatial coverage Spatial resolution Inimeliness Pola N/A N/A		-	Dataset					
Topography correction is carried out for both geolocation and radiometry based on high-resolution DEM from SRTM where available and GEOTOPO30 elsewhere. Dynamic aerosol correction is foreseen be implemented based on indirect estimation of AC at 550 nm from UV-band satellite measurements of the atmosphere. Detailed descriptions will be made available in the PUM and ATBD of CM-11221. Record length / Period 1982-2015 Comments Traceability of Requirements SAF/CM/DWD/RR2.2 v1.1dated 17.06.2014 Input satellite data AVHRR GAC Dissemination Format Means Type Netcdf CF FTP, Web offline Accuracy mean relative retrieval error: -0.6 % Decadal stability: 8.5 % Verification method Comparison with surface measurements for difference regions + comparisons with albedo estimations from other platforms Coverage, resolution and timeliness Spatial coverage (0.25) ² level3 PAR MAD ATBD of CM-11221. Topography correction is carried out for both geological and GEOTOPO30 elsewhere. Dynamic aerosol correction is foreseen be implemented based on indirect estimation of AC at 550 nm from UV-band satellite measurements of AC at 550 nm from UV-band satellite measurements for difference in the platforms of the platform of	Application	s and users	* NMHSs		S			
Comments Traceability of Requirements SAF/CM/DWD/RR2.2 v1.1dated 17.06.2014 Input satellite data AVHRR GAC Dissemination Format Means Netcdf CF FTP, Web Means Accuracy mean relative retrieval error: -0.6 % Decadal stability: 8.5 % Comparison with surface measurements for difference regions +comparisons with albedo estimations from other platforms Coverage, resolution and timeliness Spatial coverage Global (0.25)² level3 N/A		stics and	Topography correction is carried out for both geolocation and radiometry based on high-resolution DEM from SRTM where available and GEOTOPO30 elsewhere. Dynamic aerosol correction is foreseen to be implemented based on indirect estimation of AOD at 550 nm from UV-band satellite measurements of the atmosphere. Detailed descriptions will be made					
Traceability of Requirements Input satellite data AVHRR GAC Dissemination Format Means Netcdf CF FTP, Web Accuracy mean relative retrieval error: -0.6 % Decadal stability: 8.5 % Verification method Comparison with surface measurements for difference regions +comparisons with albedo estimations from other platforms Coverage, resolution and timeliness Spatial coverage Global (0.25)² level3 N/A SAF/CM/DWD/RR2.2 v1.1dated 17.06.2014 Type Offline Type Offline Accuracy Means Type Offline Accuracy Type Offline Accuracy Means Type Offline Accuracy Type Offline	Record len	gth / Period	1982-2015					
Input satellite data AVHRR GAC Dissemination Format Means Type Netcdf CF FTP, Web offline Accuracy mean relative retrieval error: -0.6 % Decadal stability: 8.5 % Verification method Comparison with surface measurements for difference regions +comparisons with albedo estimations from other platforms Coverage, resolution and timeliness Spatial coverage Spatial resolution Vertical resolution Timeliness Input satellite data AVHRR GAC Organization Accuracy Comparison with surface measurements for difference regions +comparisons with albedo estimations from other platforms Coverage, resolution and timeliness Spatial coverage (0.25)2 level3	Comments							
Pormat Means Type Netcdf CF FTP, Web offline Accuracy mean relative retrieval error: -0.6 % Decadal stability: 8.5 % Verification method Comparison with surface measurements for difference regions +comparisons with albedo estimations from other platforms Coverage, resolution and timeliness Spatial coverage Spatial resolution Vertical resolution Timeliness Indeed (0.25)2 level3			SAF/CM/DWD/RR2.2 v1.1dated 17.06.2014					
Format Means Type Netcdf CF FTP, Web offline Accuracy mean relative retrieval error: -0.6 % Decadal stability: 8.5 % Verification method Comparison with surface measurements for differe regions +comparisons with albedo estimations from other platforms Coverage, resolution and timeliness Spatial coverage Spatial resolution Vertical resolution Timeliness global (0.25)² level3	Input satel	lite data	AVHRR GAC					
Netcdf CF FTP, Web offline Accuracy mean relative retrieval error: -0.6 % Decadal stability: 8.5 % Verification method Comparison with surface measurements for difference regions +comparisons with albedo estimations from other platforms Coverage, resolution and timeliness Spatial coverage Spatial resolution Vertical resolution Timeliness alohal (0.25)² level3			Dis	semination				
mean relative retrieval error: -0.6 % Decadal stability: 8.5 % Verification method Comparison with surface measurements for differe regions +comparisons with albedo estimations from other platforms Coverage, resolution and timeliness Spatial coverage Spatial resolution Coverage Spatial resolution Vertical resolution	Format		Means			Туре		
mean relative retrieval error: -0.6 % Decadal stability: 8.5 % Verification method Comparison with surface measurements for differe regions +comparisons with albedo estimations from other platforms Coverage, resolution and timeliness Spatial coverage Spatial resolution Coverage, resolution and timeliness Vertical resolution Timeliness Coverage O(0.25) ² level3	Netcdf CF		FTP, Web			offline		
Decadal stability: 8.5 % Verification method			, ,	Accuracy				
Verification method regions +comparisons with albedo estimations from other platforms Coverage, resolution and timeliness Spatial coverage Spatial resolution Vertical resolution resolution (0.25)² level3				%				
Spatial coverage Spatial resolution Vertical resolution Timeliness (0.25)² level3	Verification method		Comparison with surface measurements for different regions +comparisons with albedo estimations from other platforms					
coverage Spatial resolution resolution Timeliness (0.25)² level3		Cove	erage, res	olution and	time	eliness		
	•	Spatial resolution			Timeliness			
				n/a	N/A			

products in EASE-grid (25 km for level3).	
(23 KIII IOI IEVEI3).	



Service Specifications

CM- 11251	AVHRR GAC Longwave I				SOL_AVHRR_global_R2	
Туре	-	Dataset				
Application	ns and users	* Climate Monitoring and Analysis (EURO4M) * NWP & climate model validation (DWD, COSMO CLM)				
Characteris Methods	stics and	monthly m	neans			
Record len	gth / Period	1982-201	5			
Comments						
Traceability of Requirements		SAF/CM/DWD/RR2.2 v1.1dated 17.06.2014				
Input sate	llite data	AVHRR GAC				
		Dis	semination			
Format		Means			Type	
Netcdf CF		FTP, Web			offline	
			Accuracy			
	hly: 13.7 W/r ability: 0.5 W					
Verification	n method	comparison with BSEN				
	Cove	erage, res	olution and	time	eliness	
Spatial coverage	Spatial resol	atial resolution		Tim	eliness	
global	0.25x0.25 °		n/a	N/A		

CM- AVHRR GA 11261 Downwelli Radiation	ng Longwa	ive SDI	AV	/HRR_global_DS_R2	
Туре	Dataset				
Applications and users		* Climate Monitoring and Analysis (EURO4M) * NWP & climate model validation (DWD,COSMO CLM)			
Characteristics and Methods	monthly n	neans			
Record length / Period	1982-201	5			
Comments					
Traceability of Requirements	SAF/CM/DWD/RR2.2 v1.1dated 17.06.2014				
Input satellite data	AVHRR GAC				
	Dis	semination			
Format	Means			Type	
Netcdf CF	FTP, Web		Offline		
		Accuracy		-	
MAB monthly: 7.9 W/r Decadal Stability: 0.4					
Verification method	compariso	comparison with BSEN			
Cov	erage, res	olution and	time	eliness	
Spatial coverage Spatial reso	lution	Vertical resolution	Tim	eliness	
global 0.25x0.25	<u> </u>	n/a N/A			



Service Specifications

	DDE HOADS DS D2							
Туре		Dataset						
Applications	s and users	* Climate Research * NMHSs * Government Agencies * e.g. University of Reading (Reading, Great Britain), Rossby Centre (Norrkoping, Sweden), Max Planck Institute for Meteorology (Hamburg, Germany)						
Characteris Methods	Equal angle grid: Spatial resolution: 0.5° Temporal resolution: 6-hour composite, monthly me Retrieval based on NWP SAF 1D-Var and extensions from MiKlip/DFG Project							
Record leng	th / Period	1987-20	14					
Comments		as CM-12701						
Traceability Requirement		SAF/CM/DWD/RR/2.7 v.1.2 dated 24.02.2014						
Input satell	ite data	CM-12002 (SSMI/SSMIS FCDR R3)						
		D	issemination)				
Format		Means			Type			
NetCDF4 CF		FTP, WEB			offline			
		-	Accuracy					
Bias: -0.12 RMSD: 0.24 Decadal stal	, -	m/(d dec))					
Verification	method	GPCP						
	Cove	rage, re	solution and	tin	neliness			
Spatial coverage	Spatial reso	lution	Vertical resolution	Tin	neliness			
global ice free ocean	0.5°		n/a	N/A	A			

		ertically pour TCI	Integrated DR R2	HTW_SSMI_global_DS_R2		
Туре		Dataset				
Applications an users	d			Government Agencies * e.g. entre, Max Planck Institute HH		
Characteristics and Methods Equal angle grid: Spatial resolution: 0.5° Temporal resolution: 6-hour composite, monthly mean Retrieval based on NWP SAF 1D-Var and extensions from MiKlip/DFG Project						
Record length / Period	•	1987-20	14			
Comments		Verification might not cover full period. Accuracy is given for global means. Temporal coverage depends on availability of SST. Stability is assessed through analysing anomaly trends against a reference when available.				
Traceability of Requirements		SAF/CM/DWD/RR/2.7 v.1.2 dated 24.02.2014				
Input satellite of	lata	CM-12002 (SSMI/SSMIS FCDR R3)				
			Dissemination			
Format		Means		Туре		
NetCDF4 CF		FTP, WEI	3	offline		
			Accuracy			
Bias: -0.34 kg/n RMSD: 0.30 kg/ decadal stability	m²) kg/(m² (dec)			
Verification me	thod	other sat	cellite products and	reanalyses		
	Co	verage,	resolution and	timeliness		
Spatial coverage	Spat resol	ial ution	Vertical resolution	Timeliness		
global ice free ocean	0.5°		n/a	N/A		



Service Specifications

CM- 12801 H	OAPS Evap	oration [*]	TCDR R2		EVA_HOAPS_DS_R2		
Туре		Dataset					
Applications	s and users	* Climate Research, NMHSs, Government Agencies, University of Reading (Reading, Great Britain), Rossby Centre (Norrkoping, Sweden), Max Planck Institute for Meteorology (Hamburg, Germany)					
Equal angle grid: Spatial resolution: 0.5° Temporal resolution: 6-hour composite, monthly methods Input parameters from retrieval based on NWP SAF Var with extensions from MiKlip/DFG Project COARE Bulk Flux parameterization				ieval based on NWP SAF 1D- iKlip/DFG Project			
Record leng	th / Period	1987-20	14				
Comments		as CM-12701					
Traceability Requiremen		SAF/CM/DWD/RR/2.7 v.1.2 dated 24.02.2014					
Input satell	ite data	CM-12002 (SSMI/SSMIS FCDR R3)					
		D	issemination				
Format		Means			Туре		
NetCDF4 CF		FTP, WEI	3		offline		
			Accuracy				
Bias: -0.28 i RMSD: 0.24 decadal stab	, -	m/(d dec)				
Verification method buoy and ship observations							
Coverage, resolution and timeliness							
Spatial coverage	Spatial reso	volution Vertical resolution Timeliness		neliness			
global ice free ocean	0.5°	n/a N/A			A		

CM- H 12811 R		nt Heat F	luxes TCDR		LHF_HOAPS_DS_R2		
Туре		Dataset					
Applications	s and users	* Climate Research * NMHSs * Government Agencies * e.g. University of Reading (Reading, Great Britain), Rossby Centre (Norrkoping, Sweden), Max Planck Institute for Meteorology (Hamburg, Germany)					
Characteris Methods	tics and	Spatial r Tempora Input pa Var with	Equal angle grid: Spatial resolution: 0.5° Temporal resolution: 6-hour composite, monthly mean Input parameters from retrieval based on NWP SAF 1D- Var with extensions from MiKlip/DFG Project COARE Bulk Flux parameterization				
Record leng	jth / Period	1987-2014					
Comments		as CM-12701					
Traceability Requiremen		SAF/CM/DWD/RR/2.7 v.1.2 dated 24.02.2014					
Input satell	ite data	CM-12002 (SSMI/SSMIS FCDR R3)					
		D	issemination				
Format		Means			Type		
NetCDF4 CF		FTP, WEB			offline		
			Accuracy				
Bias: -7.6 W RMSD: 6.51 decadal stab		//(m² dec)				
Verification	method	buoy and	puoy and ship observations				
	Cove	erage, re	solution and	tin	neliness		
Spatial coverage	Spatial reso	olution	Vertical resolution	Tin	neliness		
global ice free ocean	111 50		n/a	N/A	A		



Service Specifications

CM- 12821 H	OAPS Fresh	water f	lux TCDR R2		EMP_HOAPS_DS_R2		
Туре		Dataset					
Applications	s and users	* Climate Research * NMHSs * Government Agencies * e.g. University of Reading (Reading, Great Britain), Rossby Centre (Norrkoping, Sweden), Max Planck Institute for Meteorology (Hamburg, Germany)					
Characteris Methods	tics and	Equal angle grid: Spatial resolution: 0.5° Temporal resolution: 6-hour composite, monthly mean Difference of evaporation (CM-12801) and precipitation (CM-12611)					
Record leng	th / Period	1987-2014					
Comments		as CM-12701					
Traceability of Requirements		SAF/CM/DWD/RR/2.7 v.1.2 dated 24.02.2014					
Input satell	ite data	CM-12002 (SSMI/SSMIS FCDR R3)					
		D	issemination				
Format		Means			Type		
NetCDF4 CF		FTP, WEB			offline		
		=	Accuracy				
Bias: -0.37 RMSD: 0.44 dec stability		d dec)					
Verification method com			combination of buoy and ship observations with GPCP				
	Cove	erage, re	solution and	tin	neliness		
Spatial coverage	Spatial reso	olution	Vertical resolution	Tin	neliness		
global ice free ocean	0.5°		n/a	N/A			

	OAPS Near umidity TCI		Specific		NSH_HOAPS_DS_R2	
Туре		Dataset				
Applications	s and users	* NMHSs * Govern * e.g. Un Rossby (Climate Research NMHSs Government Agencies e.g. University of Reading (Reading, Great Britain), ossby Centre (Norrkoping, Sweden), Max Planck stitute for Meteorology (Hamburg, Germany)			
Characterisi Methods	Equal angle grid: Spatial resolution: 0.5° Temporal resolution: 6-hour composite, monthly merent based on NWP SAF 1D-Var and extensions from MiKlip/DFG Project					
Record leng	th / Period	1987-20	14			
Comments		as CM-1	12701			
Traceability of Requirements SAF/			SAF/CM/DWD/RR/2.7 v.1.2 dated 24.02.2014			
Input satelli	ite data	CM-12002 (SSMI/SSMIS FCDR R3)				
		D	issemination			
Format		Means			Type	
NetCDF4 CF		FTP, WE	EB offline			
			Accuracy			
Bias: -0.31 o RMSD: 0.21 decadal stab		(kg dec)				
Verification	buoy and	d ship observat	ions			
	Cove	erage, re	solution and	tin	neliness	
Spatial coverage	Spatial reso	Solution Vertical resolution Timeliness		neliness		
global ice free ocean	0.5°		n/a N/A		A	



Service Specifications

	OAPS Near CDR R2	Surface	Wind Speed		SWS_HOAPS_DS_R2		
Туре		Dataset					
Applications	* Climate Research * NMHSs * Government Agencies * e.g. University of Reading (Reading, Great Britair Rossby Centre (Norrkoping, Sweden), Max Planck Institute for Meteorology (Hamburg, Germany)						
Characterist Methods	tics and	Equal angle grid: Spatial resolution: 0.5° Temporal resolution: 6-hour composite, monthly mean Retrieval based on NWP SAF 1D-Var and extensions from MiKlip/DFG Project					
Record leng	th / Period	1987-20	14				
Comments		as CM-12701					
Traceability Requiremen		SAF/CM/DWD/RR/2.7 v.1.2 dated 24.02.2014					
Input satelli	ite data	CM-12002 (SSMI/SSMIS FCDR R3)					
		D	issemination)			
Format		Means			Туре		
NetCDF4 CF		FTP, WEB			offline		
			Accuracy				
Bias: -0.19 r RMSD: 0.22 decadal stab		/(s dec)					
Verification	method	buoy and	buoy and ship observations				
	Cove	rage, re	solution and	tin	neliness		
Spatial coverage	Spatial reso	volution Vertical resolution Timeliness		neliness			
global ice free ocean	0.5°	n/a N/A			A		

CM- TOA Reflected 21301 ICDR	d Solar radiativ	e flux		TRS_GERB_DS_R2			
Туре	Dataset						
Applications and users	* Climate Resear * NMHSs	ch					
Characteristics and Methods	Daily mean (dm) diurnal cycle (mr		ean (ı	mm), monthly mean			
Record length / Period	2004-2014						
Comments							
Traceability of Requirements	SAF/CM/RMIB/GI	ERB/RR/2.5	v.1.2	dated 27.02.2014			
Input satellite data	GERB,SEVIRI (re	processed v	ersion)			
	Dissemi	nation					
Format	Means		Туре				
Netcdf CF	FTP, WEB		offline				
	Accui	асу					
rmsd, monthly mean 3.5 W/m ² rmsd, monthly mean dirunal cycle: 10.9 W/m ² rmds, daily mean: 6.6 W/m ² decadal stab. 2 W/m ²							
Verification method	GERB CERES intercomparison, Accuracy and stability estimated at 1° x 1° resolution						
Cov	erage, resoluti	on and tim	eline	ss			
Spatial coverage	Spatial resolution	Vertical resolution		Timeliness			
Meteosat disk	(9 km) ²	n/a		N/A			



Service Specifications

CM- TOA Reflecte 21321 radiative flux	ed Solar Clear-S x ICDR	Sky	TF	RS_CS_GERB_DS_R2			
Туре	Dataset						
Applications and users	* Climate Resea * NMHSs * Government A						
Characteristics and Methods	Daily mean (dm diurnal cycle (m		nean	(mm), monthly mean			
Record length / Period	2004-2014						
Comments							
Traceability of Requirements	SAF/CM/RMIB/GERB/RR/2.5 v.1.2 dated 27.02.2014						
Input satellite data	GERB, SEVIRI						
	Dissemi	nation					
Format	Means		Туре	2			
Netcdf CF	FTP, WEB			offline			
	Accur	асу					
rmsd, monthly mean 4.6 W/m ² rmsd, monthly mean dirunal cycle: 14.1 W/m ² rmds, daily mean: 6.1 W/m ² decadal stab. 2 W/m ²							
Verification method	GERB CERES intercomparison, Accuracy and stability estimated at 1° x 1° resolution						
Cove	erage, resolutio	on and tim	eline	ess			
Spatial coverage	Spatial resolution	Vertical resolution				Timeliness	
Meteosat disk	(9 km) ²	n/a N		N/A			

CM- TOA Emitted 21331 flux ICDR	Thermal radiat	tive		TET_GERB_DS_R2			
Туре	Dataset						
Applications and users	* Climate Research * NMHSs						
Characteristics and Methods	Daily mean (dm) diurnal cycle (mr		ean (mm), monthly mean			
Record length / Period	2004-2014						
Comments							
Traceability of Requirements	SAF/CM/RMIB/GE	ERB/RR/2.5	v.1.2	dated 27.02.2014			
Input satellite data	GERB,SEVIRI (re	processed v	ersion	1)			
	Dissemi	nation					
Format	Means		Туре				
Netcdf CF	FTP, WEB		offline				
	Accui	асу					
rmsd, monthly mean 1.8 W/m² rmsd, monthly mean dirunal cycle: 3.7 W/m² rmds, daily mean: 4.5 W/m² decadal stab. 2 W/m²							
Verification method	GERB CERES intercomparison, Accuracy and stability estimated at 1° x 1° resolution						
Cov	Coverage, resolution and timeliness						
Spatial coverage	Spatial resolution	Spatial coverage		Spatial resolution			
Meteosat disk	(9 km) ²	Meteosat di	sk	(9 km) ²			



Service Specifications

CM- T 21351 r	OA Emitted	Thermal Clear	-Sky	TE	ET_CS_GERB _DS_R			
Туре		Dataset						
Application	s and users	* Climate Research * NMHSs						
Characteris Methods	tics and	Daily mean (dm) diurnal cycle (mi		nean	(mm), monthly mean			
Record leng	gth / Period	2004-2014						
Comments								
Traceability Requirement	15AF/UM/KMID/GFKD/KK// 5 V I / (IdIPU // U/ /UI4							
Input satel	lite data	GERB,SEVIRI (reprocessed version)						
		Dissemi	nation					
Format		Means		Туре				
Netcdf CF		FTP, WEB		offlin	line			
		Accui	асу					
rmsd, mont	mean: 6.9 W/	nal cycle: 5.6 W/r	m²					
Verification	method	GERB CERES into estimated at 1°			curacy and stability			
	Cove	erage, resolutio	on and tim	neline	ess			
Spatial cov	erage	Spatial resolution	Spatial coverage		Spatial resolution			
Meteosat di	sk	(9 km) ²	Meteosat d	isk	(9 km) ²			

CM- 23011	Meteosat Fr TCDR	actional C	loud Cover	CFC	_MVIRI_SEVIRI_DS_R1	
Туре	-	Dataset				
Application	s and users	Automation, extension, homogenization and quality check of visual cloud observations: NMHS in Europe * Validation of regional climate models (e.g. COSMO-CLM), especially the sub grid-scale cloud parameterization, diurnal cycle climatology				
Characteris Methods	stics and	Half-hourly	(HM), daily (DM)	and monthly means (MM)	
Record len	gth / Period	1991-2015				
Comments		Accuracy requirements are given as absolute CFC values. They are mean requirements averaged over the full spatial and temporal dimensions of the dataset as defined in GCOS-154. The bias can be positive or negative (mean bias error).			lirements averaged over I dimensions of the -154. The bias can be	
Traceability Requireme		SAF/CM/DWD/RR28, v1.1 dated 15.01.2015				
Input satel	lite data	MVIRI/SEVIRI				
		Dissemination				
Format		Means			Туре	
Netcdf CF		FTP, Web			offline	
		1	Accuracy			
Bias:-0.001 Bc-rms 0.1 Dec. stabilit	.7 (daily), -0.0 7 (daily means ty: 0.009	0014 (month s), 0.07 (mo	nly) onthly mean)			
Verification method		Primarily comparisons with SYNOP and automated cloud detection (APCADA) based on BSRN data complemented with consistency checks against MODIS and Cloudsat/CALIPSO datasets			ased on BSRN data ency checks against	
	Cove	erage, res	olution and	time	eliness	
Spatial coverage	Spatial resol	ution	Vertical resolution	Time	eliness	
Meteosat disk	(0.05°)²		n/a	N/A		



Service Specifications

CM-23082 Meteosat	Cloud Albe	do TCDR	CAL	_MVIRI_	SEVIRI	_DS_R2	
Type	Dataset						
Applications and users	* Climate (DWD,EUR) * Climate (* Developr) * Agricultu (GTZ)	* Climate impact analysis (DWD,EURO4M) * Climate model evaluation and development (DWD,EURO4M) * Climate change analysis (WMP-RCC,EURO4M) * Development agencies (GTZ) * Agricultural planning and drought risk assessment (GTZ) * Solar energy (JRC)					
Characteristics and Methods	30-min ins	tantaneous,,	daily	and month	nly means	5	
Record length / Period	1983-2015						
Comments	Processing chain exists at MeteoSwiss, integration to DWD system needed. More over, improvement of algorithms and used atmospheric input will be performed						
Traceability of Requirements	SAF/CM/D	SAF/CM/DWD/RR28, v1.1 dated 15.01.2015					
Input satellite data	MVIRI/SEVIRI (Rectified digital pixel counts)						
	Dissemination						
Format	Means	Means			Туре		
Netcdf CF	FTP, Web	FTP, Web			offline		
		Accuracy					
Monthly means: 0.1 and 0.05 for clear sky irradiance monthly means above 1 W/m Daily means: 0.15 and 0.1 for clear sky irradiance monthly means above 150 W/m ² . hourly means: MAD below 0.15							
Verification method	accuracy e	stimated base	ed on	derived S	IS accura	су	
Cov	erage, reso	olution and	time	liness			
Spatial coverage Spatial reso	olution	Vertical resolution	Tim	Timeliness			
Meteosat (0.05°) ²		n/a	N/A				

CM- 23202	Meteosat So Radiation T		се	SIS	_MVIRI_SEVIRI_DS_R2	
Туре	-	Dataset				
Application	s and users	* Climate impact analysis (DWD,EURO4M) * Climate model evaluation and development (DWD,EURO4M) * Climate change analysis, Development agencies & Agricultural planning and drought risk assessment * Solar energy (JRC)				
Characteris Methods	tics and	30-min ins	tantaneous,,	daily	and monthly means	
Record leng	gth / Period	1983-2015				
Comments						
Traceability Requirement		SAF/CM/DWD/RR28, v1.1 dated 15.01.2015				
Input satell	ite data	MVIRI/SEVIRI (Rectified digital pixel counts)				
		Dissemination				
Format		Means			Type	
Netcdf CF		FTP, Web			offline	
			Accuracy			
					95% of absolute difference neasurements)	
values belo	s: Mean Absol w 15 W/m² ability: 0.7 W/		nce 5 W/m² aı	nd 85	% of absolute difference	
Verification	method	comparisor	comparison with BSRN ground measurements			
	Cov	erage, res	olution and	time	liness	
Spatial coverage	Spatial resolu	ution Vertical resolution Timeliness			eliness	
Meteosat disk	(0.05°)²		n/a	N/A		



Service Specifications

CM- 23241	Meteosat S Irradiance		esolved	SRI_	_MVIRI_	_SEVIRI_	DS_R1
Туре	•	Dataset					
Applications and users		* Climate change analysis (DMI) * Development agencies (GTZ) * Agricultural planning and drought risk assessment * Solar energy (JRC,ZSW)					
Characteri Methods	stics and	monthly n	neans				
Record ler Period	ngth /	1983-201	5				
Comments	5						
Traceabilit Requireme	•	SAF/CM/DWD/RR28, v1.1 dated 15.01.2015					
Input sate	llite data	MVIRI/SEVIRI (Rectified digital pixel counts)					
		Dissemination					
Format		Means			Type		
Netcdf CF		Web		offline			
		Accuracy					
	er than 8 W/(ajority of data n).						
Verificatio	n method	Comparison with ground based data as far as available					
	Cove	erage, resolution and timeliness					
Spatial coverage	Spatial reso	Olution Vertical resolution Timeliness					
Meteosat disk	(0.05°)²		n/a	N/A			_

CM- 23282	Meteosat So	unshine D	uration	SDU	_MVIRI_SEVIRI_DS_R1		
Туре	<u> </u>	Dataset					
Application	s and users	* Climate Monitoring * Agrametorology * Solar energy					
Characteris Methods	tics and	daily and monthly sums					
Record leng	gth / Period	1983-2015					
Comments							
Traceability of Requirements							
Input satel	lite data	MVIRI/SEVIRI (Rectified digital pixel counts)					
		Dis	ssemination				
Format		Means			Type		
Netcdf CF		FTP, Web			offline		
			Accuracy				
difference v Daily sums	values below 3 : Mean Absolu	30h (+ unce ite Differend	rtainty of gro ce (MAD) of 1	und b 9 h a	n and 81% of absolute based measurements) nd 67% of absolute based measurements)		
Verification	method	comparisor	comparison with available ground measurements				
	Co	verage, res	olution and	time	liness		
Spatial coverage	Spatial resolu	ution Vertical resolution Timeliness		eliness			
Meteosat disk	(0.05°)²		n/a	N/A			



Service Specifications

_	Meteosat Su Irradiance T		ect	SDI_	_MVIRI_SEVIRI_DS_R1
Type	-	Data Rec	ord		
Applicatio	ns and users	Climate model evaluation and development, climate change analysis, agricultural planning and drought assessment, solar energy resource planning.			
Character Methods	istics and	30-min ir	nstantaneou	s, dai	ly and monthly means
Record lei	ngth / Period	1983-20	15		
Comment	S	Composed of Surface direct normalized irradiance (DNI) and surface direct radiation (SID)			
Traceabili Requirem		SAF/CM/DWD/RR28, v1.1 dated 15.01.2015			
Input sate	ellite data	MVIRI/SE	VIRI (Recti	fied d	igital pixel counts)
		Dis	seminatio	n	
Format		Means			Type
Netcdf CF		FTP, Web	b		Offline
		4	Accuracy		
SID: Mean absolute Difference (MAD): 11 W/m² and 92.5 % of absolute difference values below 10 W/m² (+ uncertainty of ground based measurements) DNI: Mean absolute Difference (MAD): 16 W/m² and 85 % of (monthly) absolute difference values below 20 W/m² (+ uncertainty of ground based					
measurem	ents) for mont	nly means.	1		
Verificatio	n method				nd measurements
	Cove	rage, res	olution and	d tim	eliness
Spatial coverage	Spatial resolu	vertical resolution Timeliness			liness
Meteosat disk	(0.05°)²		n/a	N/A	

CM- 23921	Meteosat St Surface Ter			LSA	_MVIRI_SEVIRI_DS_R1		
Туре		Data record	d				
Applications and users		Climate monitoring of land surface fluxes: e.g. LSA SAF GLDAS/LIS, Climate monitoring of heat waves: e.g. ETH Zurich Switzerland, reinsurance companies such as SWISS RE Climate monitoring of crop health: e.g. AgroScope Switzerland, UNEP, reinsurance companies such as SWISS RE					
Characteris Methods	tics and	hourly (HM (MMDC)), daily (DM)	and r	monthly mean diurnal cycle		
Record leng	gth / Period	1991-2015					
Comments		The method to derive LST is a statistical method and consistent with the operational LSA approach.					
Traceability Requirement		SAF/CM/DWD/RR28, v1.3, dated 25.07.2016					
Input satell	ite data	MVIRI/SEVIRI					
		Dis	semination				
Format		Means			Type		
Netcdf CF		FTP, WEB			offline		
			Accuracy				
Bc-RMS: 1.		0.9 K (mont	hly mean diu		cycle) n temperature and up to 0.8		
Verification	method	Ground data (BSRN, FLUXNET and/or LSA SAF validation sites), radiance based validation and comparison with other satellite products					
	Cov	erage, res	olution and	time	liness		
Spatial coverage	Spatial resolu	ıtion	Vertical resolution	Time	eliness		
Meteosat disk	(0.05°)²		n/a	N/A			



Service Specifications

CM-23931	Meteosat Pl		nd Surface	LST _.	_MVIRI_SEVI	RI_DS _R1
Туре		Data recor	d			
Applications a	nd users	Regional climate model validation: e.g. COSMO-CLM, but also ECHAM Satellite-based retrieval of 2m air temperatures at a high spatial resolutions (Good 2015) Climate studies on elevation depending warming. The Mountain Research Group (Pepin et al. 2015) maintains several test fields within the Meteosat disk including a field at the Kilimanjaro. Diurnal LST Cycle: e.g. MeteoSwiss, DWD, ETH Zurich, MPI				
Characteristics Methods	s and	hourly (HM cycle (MME		and r	monthly mean di	iurnal
Record length	/ Period	1991-2015	j			
Comments						
Traceability of Requirements		SAF/CM/DWD/RR28, v1.3, dated 25.07.2016				
Input satellite	data	MVIRI/SEVIRI				
		Disser	nination			
Format		Means			Type	
Netcdf CF		FTP, WEB			offline	
		Acc	uracy			
Bias: 0.8 K (he Bc-RMS: 1.6 k Dec. stability: 0.4 K vs. MOD	((hourly), 0.5 up to 0.4 K /	K (monthly	mean diurna		e) mperature and i	up to
Verification me	ethod	Ground data (BSRN, FLUXNET and/or LSA SAF validation sites), radiance based validation and comparison with other satellite products				
	Covera	ge, resolu	tion and time	eline	ss	
Spatial coverage	Spatial resolu	ıtion	Vertical resolution	Time	eliness	
Meteosat disk	(0.05°) ²		n/a	N/A		