EUMETSAT Satellite Programmes

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McIDAS Users' Group Meeting, 07-10 May 2012

EUMETSAT Headquarters – Darmstadt



Location of EUMETSAT - Germany

Google Map View

26 Member States & 5 Cooperating States*

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Global Satellite System

GEOSTATIONARY

GOES-11 (USA) 135% GOES-13 (USA) 105% 2 GOES-14 (USA) 89.5°W GOES-12 (USA) 75"W GOES-10 (USA) 60°W METEOSAT-9 (EUMETSAT) 0°Longitude METEOSAT-8 (EUMETSAT) 9.5°E METEOSAT-7 (EUMETSAT) 57.5"E KALPANA-1 (INDIA) 74°E INSAT-3C (INDIA) 74°E GOMS-N1 (RUSSIA) 76% 13 FY-2D (CHINA) 86.5% 14 INSAT-3A (INDIA) 93.5% 15 FY-2C (CHINA) 105% FY-2E (CHINA) 123% 16 17 MTSAT-1R (JAPAN) 140%E 18 MTSAT-2 (JAPAN) 145%

LOW EARTH ORBIT

METOP-A (EUMETSAT)
 JASON-2 (USA, EUROPE)
 JASON-1 (USA, EUROPE)
 23 24 NOAA-15,-16,-17 (USA)
 24 NOAA-18,-19 (USA)
 27 28 FY-1D, -3A (CHINA)
 29 30 OCEANSAT-1, -2 (INDIA)
 METEOR-M N1 (RUSSIA)

EUMETSAT Geostationary Satellites' Coverage

MSG: Meteosat Second Generation

MSG SEVIRI*:

1 = VIS0.6 2 = VIS0.8 3 = NIR1.6 12 = HRV

12 Kanal Instrument3 (1) km PixelgrößeBildfolge alle 15 Minuten(5 min. im "rapid scan service")

(e'')

7=IR8.

MSG News

Launch of MSG-3 on 19 June 2012 (to be Meteosat-10)

Recent events on Meteosat-8: Loss of onboard sun sensors due to a solar panel damage, i.e. compromised image quality

Launch of Metop-B in in July 2012 (TBC)

09:30 orbit maintained, however with a 90 deg difference to Metop-A orbit:

Reasons for Specific Metop Orbit Configuration

Metop HRPT

Metop-B: HRPT will be available everywhere

Future EUMETSAT Satellite Programmes

Eumetsat is preparing/developing the following satellites programmes:

 Sentinel-3 (2013): Low Earth Orbiting mission to support services relating to the marine and global land environment, with capability to serve further atmospheric- and cryospheric-based application areas.

- http://www.eumetsat.int/Home/Main/Satellites/Sentinel-3/index.htm?l=en

- MTG: Meteosat Third Generation (2018), EUMETSAT is preparing for the next European operational geostationary meteorological satellite system. MTG will revolutionise weather forecasting and environmental monitoring by providing significant improvement over the capabilities of the current Meteosat generation.
 - http://www.eumetsat.int/Home/Main/Satellites/MeteosatThirdGeneration/index.htm?l=en
- EPS-SG: EUMETSAT Polar System Second Generation (2020), The EPS follow-on system to EPS will provide continuity of polar orbiting observations for the user community.
 - http://www.eumetsat.int/Home/Main/Satellites/EPS-SG/index.htm?l=en

EUMETSAT Programmes Timeline

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MTG Space Segment – Twin Satellite Concept

MTG Space Segment Configuration

- Twin Satellite Concept, based on 3-axis platforms
 - 4 Imaging Satellites (MTG-I) (20 years of operational services)
 - 2 Sounding Satellites (MTG-S) (15.5 years of operational services)
- Payload complement of the MTG-I satellites
 - The Flexible Combined Imager (FCI)
 - The Lightning Imager (LI)
 - The Data Collection System (DCS) and Search and Rescue (GEOSAR)
- Payload complement of the MTG-S satellites
 - The Infrared Sounder (IRS)
 - The Ultra-violet, Visible and Near-infrared Sounder (UVN)

Meteosat Evolution: 1977 – 2002 - 2019

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From MSG-SEVIRI to MTG-FC

MTG FCI outbids MSG SEVIRI observations on cloud, aerosol, moisture and fire:

- by adding new channels
- by improving temporal-, spatial-, and radiometric resolution

	Coverage	Repeat cycle
FDHSI mission	18ºx18º	10 min
HRFI mission	1/4 FD	10/4 min

MTG-IRS: High Spectral/Spatial/Temporal Sampling

MTG-IRS will deliver unprecedented information on horizontal and vertical gradients of moisture, wind and temperature.

MTG Lightning Imager Requirements

The LI on MTG measures Total Lightning: Cloud-to-Cloud Lightning (IC) and Cloud-to-Ground Lightning (CG)

Main benefit from GEO observations: homogeneous and continuous observations delivering information on location and strength of lightning flashes to the users with high timeliness of 30 seconds

LIS/OTD flash density in the MTG LI field of view

detect, monitor, track, and extrapolate in time occurrence of strokes:

- Warnings
- Development (Intensity/Movement) of active convective areas
- Lifecycle of storms •

As well as...

- Lightning climatology
- Chemistry (NOx production)

Proxy Data Development – Example

Simulation of MTG LI events on 28 July 2006 at 0 h 15 min

Based on LINET ground-based data over Europe

Colour code indicates the MTG-LI "event" density

The EUMETSAT Data Centre Archive – McIDAS is available as a delivery format for the Level 1.5 Data Set from EUMETSAT's Geostationary Satellites

Ordering McIDAS Data from the EUMETSAT Data Centre

- Anyone can register using the EO Portal to become a Data Centre user.
- EO Portal URL http://eoportal.eumetsat.int into your browser.
- User should subscribe to the Data Centre Service subscription.
- This service offers an Online Ordering Application were EUMETSAT data can be queried and ordered.
- The Data is free but there is no guarantee on delivery times.
- User guides, training slides and general information about the Data Centre can be founded under:

http://www.eumetsat.int/Home/Main/DataAccess/EUMETSATDataCentre/index.htm?l=en

User guides, training slides and general information about the Data Centre

EUMETSAT - Data Access - X Product Navigator

SEARCH

GO

C A O www.eumetsat.int/Home/Main/DataAccess/EUMETSATDataCentre/index.htm?l=en 💌 Telekom 💐 Google 😴 EUMETSAT Football ... 🕲 193.17.10.43/GSICSC... 😢 Yahoo! UK & Ireland... 😂 Dropbox - Files - Si... EUMETSAT Monitoring weather and climate from space ABOUT EUMETSAT | SERVICE STATUS | DATA & PRODUCTS | DATA ACCESS | SATELLITES | IMAGE GALLERY | NEWS Home > Data Access > EUMETSAT Data Centre DATA ACCESS EUMETSAT Data Centre EO Portal Registration The EUMETSAT Data Centre provides long-term preservation of data and generated products from the EUMETSAT Application Ground Segments. The online ordering facility EUMETSAT Data Centre provides users access to these time-series data NetCDF — Common Delivery Format Pilot Data Centre Newsletter Products and Imagen Delivery Media The Data Centre aims to: Meteosat ZDE Image Archive Guarantee a long-term preservation of data and generated products from EUMETSAT's meteorological satellites. Enable users to browse: make automated orders and retrieve data from EUMETSAT's catalogue of products. Online Ordering Online Ordering FAO Set up in 1995, the EUMETSAT Data Centre quickly developed to become a state-of-the-art archive serving all EUMETSAT satellite programmes. With more than 25 years of meteorological Facts and Figures satellite products available, the EUMETSAT Data Centre offers one of Europe's largest and most comprehensive collections in this field. ELIMETCast Accessing Meteorological Data and Products in the EUMETSAT Data Centre GTS/RMDCN • WMO Information System Meteorological Data and Products are accessed via the EO Portal, through a Java-based EUMETSAT Data Centre + Online Ordering Application, used for searching, selecting and ordering Direct Dissemination products. Please refer to the - Product Navigator to view our comprehensive overview of meterological data and products offered by the EUMETSAT Data Centre. Internet Equipment Manufacturers Online Catalogue Support Software & Tools Data Standards Resources Registering as a New EUMETSAT Data Centre Online Application User New users of the EUMETSAT Data Centre are requested to familiarise themselves with the following online resources: How do I get started using the Online Ordering Application?

Online Ordering Application User Manual — EO Portal Edition (PDF, 3.2 MB)

Online Ordering Application Training Slides (PDF, 7.4 MB)

These resources provide the necessary information needed to register, query, and order meteorological data and products from the EUMETSAT Data Centre.

Our + Data Centre Newsletter has regular updates and information on enhancements or changes to services and known issues

Archive Data Policy

EUMETSAT Data Centre meteorological data and products are available free of charge (subject to an annual review process). During the registeration process, users are requested to indicate their acceptance of the Data Policy terms and conditions under which the meteorological data and products are supplied.

All EUMETSAT satellite images are subject to EUMETSAT copyright. Users of these images must credit this copyright by displaying the words "copyright © {year} EUMETSAT" on each of the images used, where {year} is the current year. For further information regarding the EUMETSAT Data Policy, please contact the + User Service Helpdesk.

Slide 24

Earth Observation Portal (EO Portal) for User Registration and Services Subscription for EUMETSAT Data.

EO Portal: User Registration and Subscription

The Data Centre Ordering Application can be found here:

FARTH OBSERVATION PORTAL EUMETSAT

My Account

PRODUCT NAVIGATOR | DATA CENTRE | HELP

Earth Observation Portal

HOME (ATACOR)

User Profile

- Service Subscriptions
- Licences
- Logout

Welcome to the EUMETSAT Earth Observation Portal. Select from the available options to view/modify your profile, subscribe/unsubscribe to services, request decryption hardware and software, view your licence details and request new or view existing Data Centre orders.

If you are registering for data and products for the first time, go to Edit/View Service Subscriptions to select your preferred service/s.

AVAILABLE OPTIONS

Edit/View Service Subscriptions Select the near real-time data and products you wish to receive, your preferred delivery mechanism and update your data usage profile.

2.15

 View/Extend Licences View existing licence arrangements, request a licence renewal.

 Data Centre Application Request new archive data and view status of current and previous Data Centre orders.

Modify your contact details, including address details for

delivery and invoicing purposes, phone, fax and email, etc.

Edit/View User Profile

Print | Contact us | Privacy Policy

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EUMETSAT Data Centre Online Ordering		
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Query and Order Shopping Trolley Specific Product Order Order Follow-Up	E TOWELDAN	
Shopping trolley management tool	Subsetting and Delivery Options	
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🗋 Meteosat 9 (MSG product family)_2012-04-08_12:42:41.0Z		
Meteosat 9 (MSG product family)_2012-04-08_12:57:41.0Z	Format Type	
	JPEG	
	MSG IDSAC in 8 bit sampled pixels	
	MSG IDSB1 in 10 bit sampled pixels	
	MSG IDSB2 in 10 bit sampled pixels	
	MSG IDSB2 in 8 bit sampled pixels	
	NetCDF(solely calibration values)	
	WV 7.3 0 0 0	
Product details		
Product Type MSG15 Orbit Type GEO		
Processing Level level 1.5		
Satellite ID Meteosat 9 (MSG product family) Base Algorithm Version 0100		
Product Algorithm Version none Reference Time 2012.04.08 12:12:40 8490007		
Disposition Flag Operational mode		
Archive Facility U-MARF Spectral Band Ids VIS 0.8; nIR 1.6; IR 3.9; WV 6.		
2; WV 7.3; IR 8.7; IR 9.7; IR 10.8; IR 1		
Source Environment for operational mode		
Instrument ID SEVIRI instrument (MSG) Subsatellite Point Start Longitude (deg) 0.0		
Processing Start Date and Time 2012-04-08 12:12:52.000000Z		
Processing Centre descr. MPEF (generated by Eum.) Dropped Line Count 0		
Dropped Line Percentage 0 Associated Quality Information none		
Overall Quality OK		
Reception Start Date and Time 2012-04-08 12:00:10.404000Z Receiving Centre descr. PGS		
Reception Stop Date and Time 2012-04-08 12:12:40.849000Z		
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	e-mail peter.miu@eume e-mail peter.miu@eume	
Product details	Product Information Product ID Media Type Format Delivery Size (MR) Cost (Fure)	
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	20120408125 On line delivery McIdas AREA 109.41 0.00	
	Total Order Size (MB) 437.64	
	Total Order Cost (Euro) 0.00	
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Set EUMETSAT Data Centre Online Ordering					
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Orders	1 Details				
	ID: 1027264				Archive Facility: UMARF
CRUEKS	Submission Date: 2012-04-10 07:29:46.0	Z			
	Price (Euro): 0.00				
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	Granule Name	Product Type	Media Type	Compression Method	Product Format
	20120408120010-MSG2-MSG15	High Rate SEVIRI Level 1.5 Image Data	On line delivery	BZIP2	Moldas AREA files
C ERROR	20120408121510-MSG2-MSG15	High Rate SEVIRI Level 1.5 Image Data	On line delivery	BZIP2	Moldas AREA files
	20120408123010-MSG2-MSG15	High Rate SEVIRI Level 1.5 Image Data	On line delivery	BZIP2 BZIP2	Moldas AREA files
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 MSG2-SEVI-MSG15-0100-NA-20120408124240.955000000Z-1027264.tar
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 MSG2-SEVI-MSG15-0100-NA-20120408125741.01000000Z-1027264.tar
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 MSG2-SEVI-MSG15-0100-NA-20120408125741.01000000Z-1027264.tar
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Mcidas_MSG2-SEVI-MSG15-0100-NA-20120408121240.IR39	IR39 File	26,914 KB
Mcidas_MSG2-SEVI-MSG15-0100-NA-20120408121240.IR87	IR87 File	26,914 KB
Mcidas_MSG2-SEVI-MSG15-0100-NA-20120408121240.IR97	IR97 File	26,914 KB
Mcidas_MSG2-SEVI-MSG15-0100-NA-20120408121240.IR108	IR108 File	26,914 KB
Mcidas_MSG2-SEVI-MSG15-0100-NA-20120408121240.IR120	IR120 File	26,914 KB
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README		

EUMETSAT Product Navigator: http://navigator.eumetsat.int

The Product Navigator is the central online access to all of EUMETSAT's data information and meta-data. The Navigator complies with ISO 19115/19139 meta-data standards and conforms to the EU INSPIRE directive.

EUMETSAT Product Navigator: http://navigator.eumetsat.int

The EUMETSAT McIDAS ADDE Server (used for training)

McIDAS-V - Data Explorer		E Gal			
Data Sources	eld Selector	Layer Controls			
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- McIDAS-X Bridge		M8RS - M8RS			
- Legacy Choosers		M8RSHRV - M8RSHRV			
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		10 most recent	Data Sources:	Fields	Q Displays
		11 most recent	Formulas		
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		14 most recent		 1.6 um Near IR - Surface, cloud phase 2.9 um IR Law Cloud/East Fire Detection 	- Image Display Over Topography
		15 most recent		Raw	- Image Contours
		16 most recent		- Radiance	← General
		18 most recent		A Temperature	- Data Transect
		19 most recent		 ► 6.2 um IR Upper-level Water Vapor 	Data Probe/Time Series
		20 most recent		► 7.3 um IR Mid-level Water Vapor	Times Region Advanced Settings
		22 most recent		• 8.7 um IR Total Water, Cloud Phase, Dust	
		23 most recent		 9.7 un Ozone 10.8 um IR Surface/Cloud-top Temp 	
		24 most recent		- 12.0 um IR SFC/Cloud Temp, Low-level WV	
		26 most recent		• 13.4 um IR CO2, Cloud Heights	
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The EUMETSAT McIDAS ADDE Server

User Service Division: Point of contact for User's feedback to improve all EUMETSAT Data Access Services (ops@eumetsat.int)

End of Presentation

Thank you for your Attention, questions ?

EUMETSAT URLs:

<u>http://www.eumetsat.int</u> <u>http://eoportal.eumetsat.int</u> <u>http://navigator.eumetsat.int</u> <u>http://adde.eumetsat.int</u>

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