ISSUE 22 MAY 2005

EUMETSAT

image

News from Europe's weather satellite organisation

Testing time for MSG-2

A great deal of work remains to be done before MSG-2 rides to the skies this year. There are even more checks and tests to come once the satellite is in orbit, before it hopefully becomes operational towards the end of the year. However, while there is a green light for both satellite and system, availability of the launcher has yet to be confirmed.

It is not unusual for a satellite launch to be delayed – this is something that can happen for a variety of reasons. In this case, the issue is not with the satellite or the ground segment, but the launch vehicle availability, which is driven by uncertainties associated with the flights to take place before us. Furthermore, the launcher does no longer offer the same capacity for shock attenuation as the one used for MSG-1. Complex analyses are therefore necessary, and as a result, the launch date (currently foreseen for late August) is still in a state of flux. Verification of the entire system was completed at the end of March; the project continues to progress well, with the engineers confident that, once launched, the satellite will deliver an excellent service to the user community.

> "It is of vital importance to be prepared for all eventualities which might occur to the satellite in orbit"

As soon as final system readiness has been attained and testing is complete the Operations Rehearsals phase begins. This focuses on the whole system, ensuring it is stable and performs to expectations and double checking that the satellite, data reception and the ground system are operating in unison.

Operations Rehearsals also cover emergency operations – for example, what to do in the event of an unexpected failure on the satellite, or between the satellite and the ground system. "It is of vital importance to be prepared for all eventualities which might occur to the satellite in orbit," explains Lothar Schwarz of the MSG project team.

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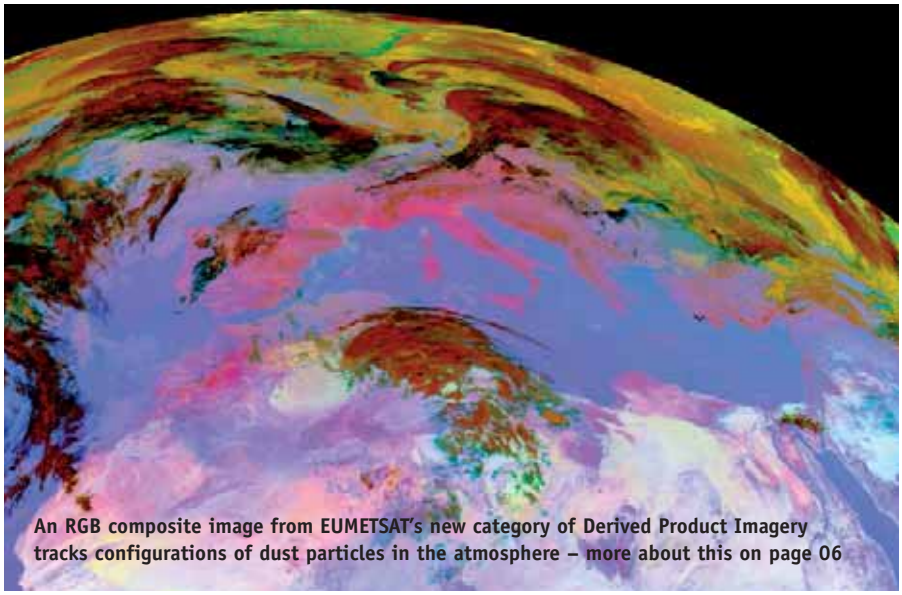
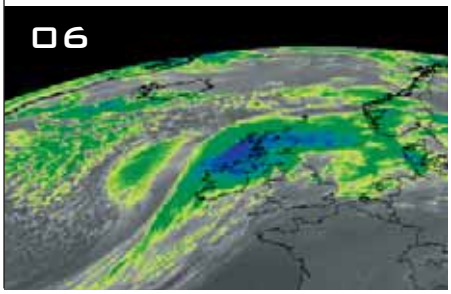


An RGB composite image from EUMETSAT's new category of Derived Product Imagery tracks configurations of dust particles in the atmosphere – more about this on page 06



DIRECTOR-GENERAL'S DESK

EUMETSAT is Europe's operational agency for meteorological satellites and our core mission is to monitor weather, climate and the environment. While this might sound like a repetition of facts well known, recent events once more confirmed the vital role EUMETSAT plays in pursuing its mission.

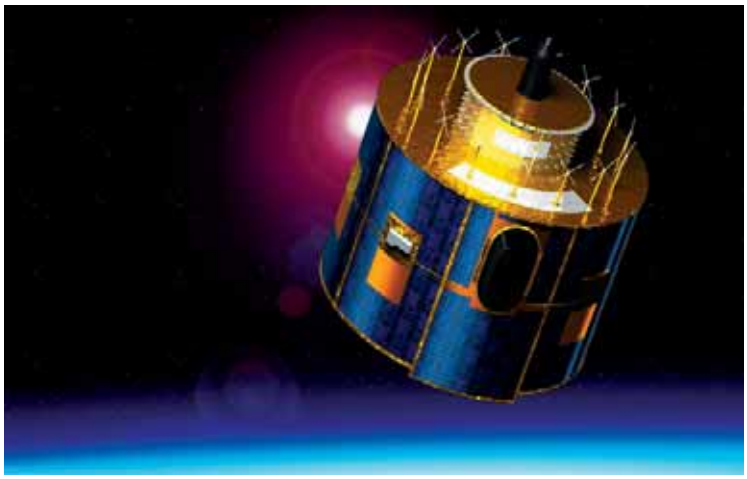
The disastrous tsunami that struck an unsuspecting populace and literally wiped out whole communities tragically demonstrated the need for an early-warning system for the Indian Ocean region. EUMETSAT's management team responded immediately – on 12 January it was decided to make Meteosat-5, which covers the Indian Ocean, available for such a warning system. In fact, all this requires is the activation of a Data Collection Platform Acquisition Service limited to a special international frequency band. This service can be activated without delay and uses existing resources both in orbit and on the ground – hence the costs are negligible while the potential benefits are huge.

The true value of MSG data was again demonstrated in early January this year, during the severe weather that hit Scandinavia, Northern Ireland, Scotland and northern England. Torrential rain and strong winds lashed the countryside, killing a number of people in several northern countries; trucks were blown over, ferries grounded and tens of thousands of people were left without electricity. However, the damage to life and property would have been far greater had it not been for the timely warnings from the National Meteorological Services, which were based on numerical forecasts using data received from EUMETSAT images tracking the developing storm in real-time.

To further improve this vital service EUMETSAT employees are working hard to prepare the launch of Meteosat-9 (MSG-2), eagerly awaited for the second half of 2005. Once the satellite is commissioned, anticipated for the end of the year, the in-orbit configuration of two Meteosat Second Generation satellites will ensure a backup solution providing the same quality of images which proved so vital in the recent severe weather events.

Dr. Lars P. Prahm
Director-General of EUMETSAT

Continued from page 1: Testing time for MSG-2



The Launch and Early Orbit Phase (LEOP) will be performed by the European Space Agency's Spacecraft Operations Centre (ESOC) under EUMETSAT's supervision. During this phase, MSG-2's elliptical transfer orbit will be converted to a circular orbit and raised to geostationary height. Three months prior to the final launch date, ESOC will begin a simulation programme which puts a special focus on the orbiting manoeuvres to be performed during the LEOP and checks out the LEOP control centre and the operations procedures. These activities will culminate in a final dress rehearsal about a week before launch, involving all the actors in the play.

The LEOP phase takes a total of 10 days and when the satellite goes into what is called the 'drift-orbit' the EUMETSAT control centre takes over. When the future Meteosat-9, as MGS-2 will be known, is firmly ensconced at its commissioning position at 10.5°W the commissioning phase commences, during which all satellite functions, including the interface between the satellite and the ground system, are thoroughly checked. The first image from the satellite is expected to arrive between four and six weeks later, followed by a detailed characterisation of the image quality and the associated meteorological products.

> "By the end of the year users should have the benefit of a full in-orbit backup system composed of two MSG satellites"

The commissioning phase is currently scheduled to be finished by the end of the year, by which time, says Jean-Claude Philippe of the MSG project team: "Users should have the benefit of a full in-orbit backup system composed of two MSG satellites. We expect the future Meteosat-9 to become the operational satellite and Meteosat-8, which is currently providing this service, to be the backup. This is because the new satellite will have full Data Collection Platform and dissemination capabilities, which Meteosat-8 does not have."

All now depends on the launch date which is foreseen for the second half of 2005.

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Spreading the word at Space Week

Brussels played host to Space in February – and also to the 3rd Earth Observation Summit. Attended by government ministers from all over the world, the summit endorsed a 10-year plan for the creation of a global observation system which integrates all existing systems for the monitoring of the climate and the environment. The plan was presented by Dr. David Williams, EUMETSAT's Head of Strategy and International Relations Division. It was agreed that a secretariat will be established to supervise the plan's implementation, hosted by the World Meteorological Organization to ensure minimal duplication of existing infrastructures for weather and Earth observation.

A highlight of the Earth and Space Week, which was opened by addresses of the directors of the EC, ESA and EUMETSAT, was the Earth and Space Expo, an inspiring exhibition for the general public showing how space-related events and initiatives are benefiting our planet. The exhibition's futuristic and interactive Weather Link section provided an inspiring opportunity to publicise the work of EUMETSAT and our partner organisations, by showing how meteorological satellites work and how the data they collect help to predict severe weather conditions. The real-time reception of data from Meteosat-8 proved a particular hit for the exhibition's 35,000 visitors, which included thousands of school-children.

More room for EUMETSAT

Seven years after completing Phase III of our Darmstadt headquarters we are once more bursting at the seams. To accommodate EUMETSAT staff and consultants, Council authorised the construction of a new wing which commenced in summer 2004. "It has progressed so well that we expect to have the move completed before the summer break," reports Peter Czada, Head of General Services Division.

Come June, 450 employees – many of whom are currently working off the premises – will at last find themselves accomodated in permanent office facilities at the headquarters. The new building's highly flexible infrastructure is ideal for the ever-changing requirements of a dynamic organisation like EUMETSAT. The library, currently located in the basement, will have a new, purpose-built home on the building's ground floor rotunda. Soon, all cranes, scaffolding and container offices will be gone and the next project can begin: the creation of a car park specially for EUMETSAT visitors.

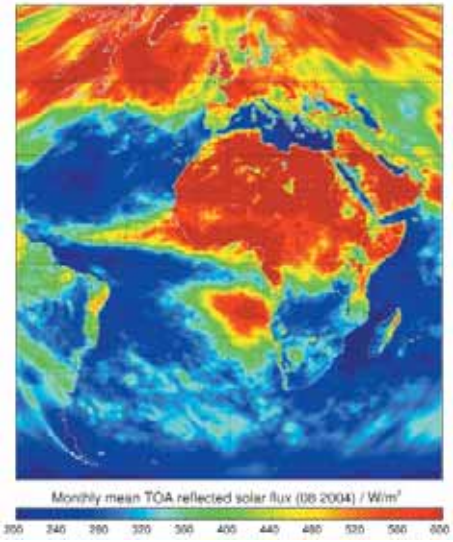
EPS: latest state of play

Aurora Borealis over the EPS Ground Station at Svalbard on 21 January

- The launch of the first Metop satellite from Baikonur, Kazakhstan, remains on schedule for April 2006.
- The first version of the EPS Core Ground Segment (CGS) was delivered by Alcatel Space in November 2004 and is now in use for EPS System Integration and Verification testing.
- Formal on-site testing is ongoing for the second version of the EPS CGS – the 'ready for launch' version which EUMETSAT will use to prepare the launch of the first Metop satellite.
- The fourth Satellite System Validation Test involving the EPS Ground Segment in Darmstadt and the Metop satellite in Toulouse was successfully completed in March.
- The first flight-qualified model of the Infrared Atmospheric Sounding Interferometer (IASI) was delivered by CNES at the end of January and successfully integrated into the Metop-2 satellite.
- The Metop-2 satellite has successfully completed its integration and environmental test programmes; the formal Flight Acceptance Review is planned for summer.
- NOAA plans to launch NOAA-N (NOAA-18) in May 2005. This is actually the first satellite of the Initial Joint Polar System carrying the EUMETSAT Microwave Humidity Sounder.
- The qualification review of the Metop launch configuration was initiated in September 2004 and is planned to be completed in autumn of this year.

Satellites provide an invaluable tool for remotely monitoring the state and health of the planet and detecting climate changes over time. Our series on Satellite Application Facilities (SAFs) takes a look at the work of the Climate Monitoring SAF, which is opening up new possibilities for research into these long-term changes and their impact on the environment.

THE CLIMATE MONITORING SAF



Above: Monthly mean reflected solar flux at the top of the atmosphere in August 2004

The CM SAF team at its Second Board Meeting in Zurich in September

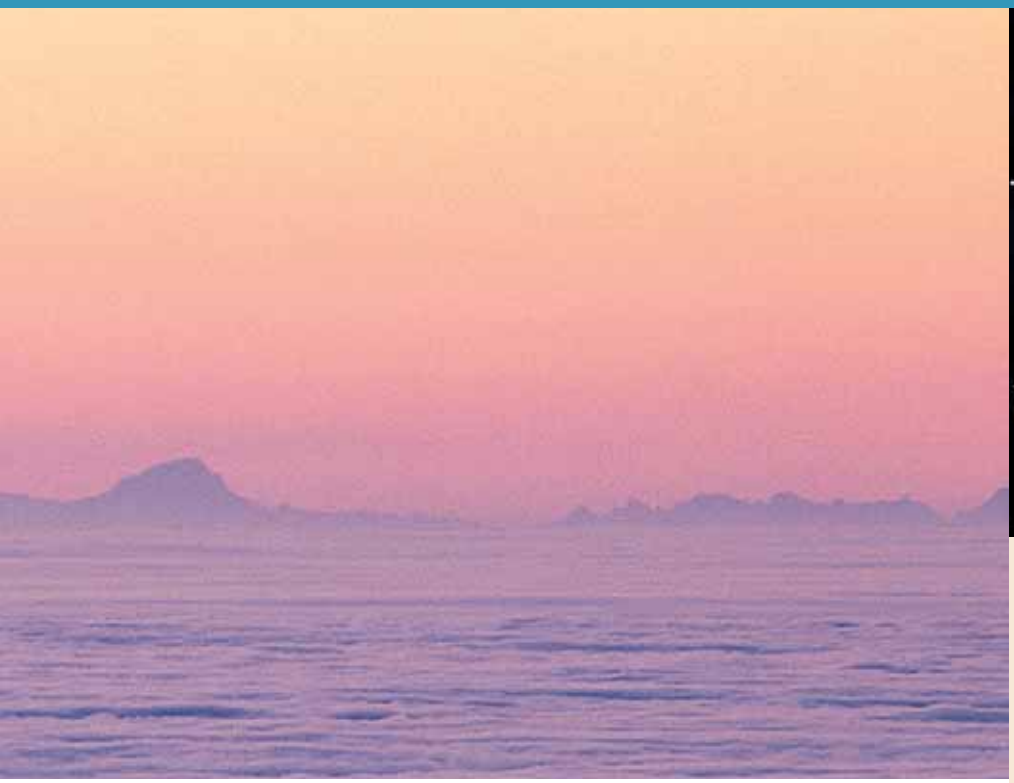
Climatic changes are not new – the Earth's climate has evolved dramatically over the millennia, with phenomena such as the Ice Age radically transforming northern landscapes and their indigenous fauna and flora. However, scientists and environmentalists have been growing increasingly concerned by factors such as rising temperatures in the atmosphere and the oceans and the loss of ozone in the upper atmosphere. Opinion is divided as to man's influence on these occurrences; whatever their cause, there is mounting evidence that they are starting to adversely affect the Earth's fragile ecosystem. In addition, the increasing incidence of extreme weather events is costing the global economy billions of euros, as well as lives and livelihoods.

Observation of extreme weather events and climatic shifts through the long-term collection of accurate, high-quality satellite data provides scientists with vital clues that deepen their understanding of the processes that govern them and how they interact with each other. Satellites are able to remotely gather data from oceans or regions which are difficult to monitor from the ground; they can also provide information which cannot be measured from the Earth's surface, such as the radiation levels at the top of the atmosphere. The data collected enables researchers to analyse the likely impact of climate changes and extreme weather events and formulate the environmental policies and initiatives necessary to mitigate them.

Looking to the long term

Monitoring the Earth's climate requires a long-term vision and commitment and the resources to support and maintain operations over many decades. EUMETSAT's Meteosat Second Generation satellites represent a key component of Europe's commitment, and will be complemented in 2006 by the first of the Metop satellites in the EUMETSAT Polar System (EPS) programme. The instruments carried aboard Metop – the first operational European meteorological satellite flying in polar orbit – will deliver far more precise details and data over the more remote regions of the globe.

Data from the satellites is being processed by EUMETSAT's Climate Monitoring (CM) SAF to produce the consistent, high-quality information, products and services that are essential to scientists' understanding of the complex interactions between key components of the Earth's climate systems – the atmosphere, oceans, land surfaces and the cryosphere (the frozen land- and water-based regions). The area currently covered extends across Europe and parts of the Atlantic Ocean. This will extend successively to the Inner Arctic region and Africa until CM SAF becomes fully operational in 2007.



Decision time for Jason-2

Image: CNES

Every satellite programme has its milestones, and for the Jason-2 Altimetry Programme, EUMETSAT's contribution to the Ocean Surface Topography Mission (OSTM), an important one on the horizon is the signature of the four-partite memorandum of understanding with our partners CNES, NASA and NOAA.

An important step was made on 1st March, when NASA announced its decision, after careful consideration of all alternatives, to discontinue the development of the Wide Swath Ocean Altimeter originally meant to fly on board the satellite. This decision was taken in view of funding issues, as well as the risks any further delay would have caused the entire programme.

Following the decision, all partners met in Washington, D.C., on 10.-11. March to assess the consequences and to amend the draft of the Memorandum of Understanding (MoU). The cancellation of the WSOA has no impact on the definition of the programme for EUMETSAT, and all partners remain committed to the core mission. The modified MoU will be submitted to the EUMETSAT Council for approval in December this year.

This decision being taken, work progresses well on the development of all other aspects of the system, including preparation for the lines of communication. CNES has begun work on the satellite system itself and EUMETSAT has initiated the work for infrastructure construction of the Primary Ground Station in Usingen, Germany. In approximately six months time CNES will deliver the antenna, with the installation of the earth terminal scheduled towards the end of the year.

Everything is ready and set to go, therefore, once the signatures are dried on the memorandum of understanding. And looking to the future, preliminary discussions have already begun on life after Jason-2.

Development of CM SAF began in 1998 under the leadership of Deutscher Wetterdienst (DWD), the German National Meteorological Service, with the contribution of its counterparts in Finland, Holland, Belgium, Sweden and Switzerland. The data collected by CM SAF is being archived and made available via the internet to the meteorological, hydrological and oceanographic services of EUMETSAT's Member and Cooperating States, and also to climate, environment and climate impact research centres, international research institutes, government agencies, universities and other interested users.

CM SAF applications

The Climate Monitoring SAF's expanding suite of products are tailored for applications focusing on key aspects of the Earth's atmospheric water and energy cycle and include:

- cloud parameters (e.g. cloud type, height, cover and thickness),
- radiation budget parameters (e.g. incoming and outgoing radiative fluxes, at the Earth's surface and at the top of the atmosphere),
- humidity (water vapour) in the atmosphere.

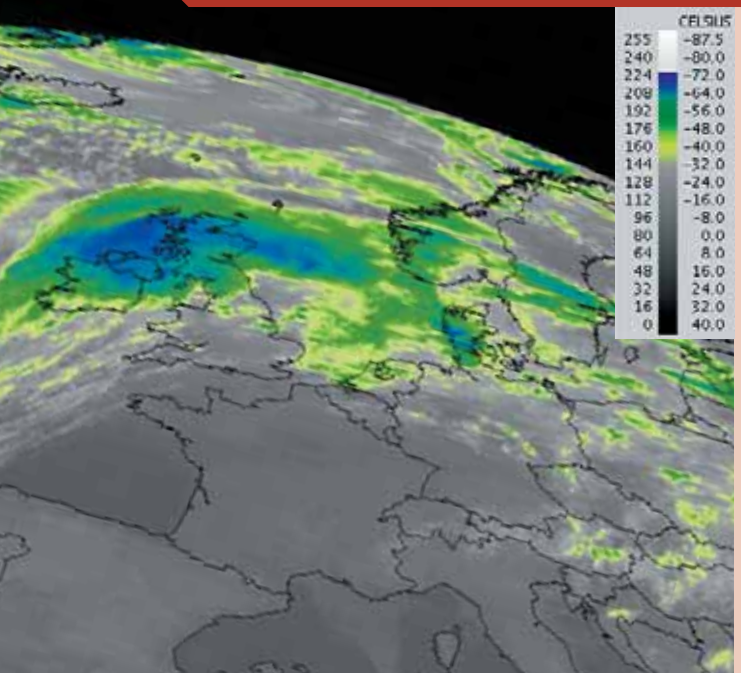
More about the Climate Monitoring SAF at www.cmsaf.dwd.de

About SAFs

SAFs are dedicated centres of excellence for processing satellite data and form an integral component of EUMETSAT's distributed applications ground segment. Located at National Meteorological Services in Member States, they use the expertise of the EUMETSAT community to process application-specific data from geostationary and polar orbiting satellites to generate new products and tools for the meteorological and climate data user communities.

WHAT IS... the Earth's radiation budget?

ERB, as it is also known, is the balance between the radiation emanating from the sun, and the outgoing reflected and scattered radiation from the Earth's atmosphere, together with thermal infrared emissions to space. For example, the enhanced greenhouse effect due to the man-made release of CO_2 (e.g. via burning rainforests and fossil fuels) is believed to change the radiation budget of the Earth significantly, resulting in further global warming.



From the archive

This graphic satellite image shows a violent storm which hit Scandinavia, Northern Ireland, Scotland and northern England on 7-8 January 2005. Torrential rain and strong winds gusting up to 124 mph caused considerable damage. While it was the worst storm in Sweden for a century, in the UK three motorists were killed and one motorway was closed after 25 trucks were blown over. Scotland was also particularly badly hit; a passenger ferry carrying 100 people ran aground on its gale-lashed west coast and some 60,000 people were left without electricity after winds downed trees and telegraph poles. However, the damage to life and property would have been far greater had it not been for the UK Met Office's advance warning of the storm, based on data provided by the Meteosat-8 satellite. This picture was taken by Meteosat-8 on 7 January 2005, 20:00 UTC.

USERS PLATFORM

01 NEW ALERT SERVICE

EUMETSAT launched a new User Notification Service (UNS) in January which enables users to select which service messages they wish to receive (news, administration or weekly schedule) and their preferred delivery method (email or ftp) and format (txt, html or xml). Users can register for this service via the EUMETSAT website. The alert service is available to both registered users and any organisation interested in receiving such notifications. Additionally, all service messages are displayed on EUMETSAT's website in the Data Products and Services area. Messages relating to EUMETCast-delivered services are disseminated via EUMETCast.

02 NEW MSG DATA GUIDE

November 2004 saw the publication of an updated version of the MSG Interpretation Guide, which provides examples of Meteosat-8 image data together with brief descriptions on how to interpret the various spectral channel combinations. The guide is available on CD-ROM and DVD from the User Service Helpdesk and can also be downloaded from EUMETSAT's website (navigate from the home page by clicking on 'Meteosat-8 A New Service Dimension' and again on the link to the 'MSG Channel Interpretation Guide').

03 CUSTOMER FEEDBACK

As part of EUMETSAT's ongoing commitment to providing services that meet the needs of the user community, the User Service has recently conducted a customer satisfaction survey to gauge opinions on the operational data, products and services we provide. The results will help us to determine whether our services meet your needs and expectations, identify areas for improvement and enable us to set the goals that will lead to improved services. We would like to take this opportunity to thank you for completing the survey that went out to 3,000 registered users of our services in January 2005. The results will be published shortly on our website and in the next issue of the Operations News Bulletin.

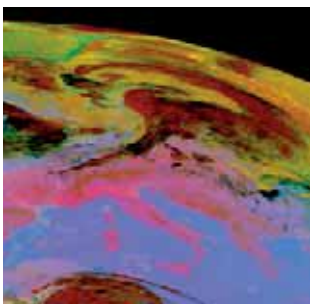
04 INTERNET ADDRESS

EUMETSAT changed its internet domain name to eumetsat.int on 1 February 2005. However, the original domain name, eumetsat.de, will continue to operate in parallel for the time being. Our new website address is www.eumetsat.int. To contact our Helpdesk use: ops@eumetsat.int or archive@eumetsat.int

05 NEW IMAGE COLLECTIONS

As part of our commitment to providing new services, our website now features two new impressive collections of Meteosat-8 satellite images: Media imagery, which contains a substantial quantity of downloadable material in print-quality, and Derived Product Imagery, which currently includes the RGB dust product in full resolution and delivered in real time. More products will follow, including precipitation estimates and instability index.

The RGB dust product is a composite image, showing the presence and path of dust in the atmosphere, and tracking, for example, sand storms across deserts and over oceans or seas. The dust, which hides the weaker ground signal in channel 7 (at 8.7 micron), appears as pink or dark magenta; dry land appears as cyan and thick cloud as brown tones. The image is produced through a combination of MSG channels IR 8.7, IR 10.8 and IR 12.0 and is updated every six hours. For the latest available static and animated RGB Dust Product Imagery, visit www.eumetsat.int/en/m_area5.html and click on 'Derived Product Imagery'.



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PROFILE: DR.WERNER BALOGH

Helping to shape the GMES initiative

Dr. Werner Balogh joined EUMETSAT in November as the organisation's International Relations Officer/EU. This is a new post, specially created to support EUMETSAT's activities concerning the European initiative, Global Monitoring for the Environment and Security (GMES).

Dr. Balogh's principal role will be to represent EUMETSAT at the European Commission, where GMES partners are working together to shape a truly European Earth observation system that will also contribute to the creation of a Global Earth Observation System of Systems (GEOSS).

He joins EUMETSAT from the Austrian Space Agency, having worked previously in the UN's Vienna-based Office for Outer Space Affairs and the NASA Johnson Space Centre. His wide-ranging expertise in space-related matters will now be applied to Earth observation to the benefit of the organisation.

"It was exactly the right time to come to EUMETSAT," says Dr. Balogh. "Having been involved in various space-related projects in the past, what fascinates me most about space activities is that they can advance our knowledge about ourselves and our place in the universe, while at the same time helping us to cope with issues here on Earth through the use of space applications. I decided that it was time again to focus on the latter. These are truly exciting times for space activities and I am glad to be here at EUMETSAT."

Born: Oberwart, Austria, 1970

Career path:

- **1994:** graduated from Vienna University of Technology with a degree in Technical Physics. In 1996 he completed his PhD thesis in the field of nuclear astrophysics on nuclear reactions forming the heavy elements in supernovae environments.
- **1996:** worked on human space mission design at the NASA Johnson Space Centre.
- **1996:** completed the first Master of Space Studies course at the International Space University, Strasbourg.
- **1997-1999:** worked at the United Nations Office for Outer Space Affairs in Vienna as an Associate Expert for Space Applications.
- **1999-2004:** worked at the Austrian Space Agency with a broad remit that encompassed the disciplines of space sciences, human space flight, exploration and the development of essential components for future space transportation systems, space policy and international relations. He represented Austria on several ESA Programme Boards and acted as Austrian delegate to the UN Committee on the Peaceful Uses of Outer Space (UNCOPUOS).

Private life:

Currently studying for a master's degree in international relations at the Fletcher School of Law and Diplomacy, Tufts University, Massachusetts, USA. When not working (or studying!) Dr. Balogh's hobbies include learning Japanese, jogging, dancing, working out in the gym and reading a good book.

Learning about EUMETSAT

We have recently published four new brochures about our organisation and programmes:

Outlook on Earth is a comprehensive 16-page guide to our organisation, activities, partners and employees (brochure number EUM.03, available in English, French and German).

Monitoring weather, climate and the environment is a new 4-page leaflet which summarises our activities in a more condensed form (brochure number EUM.02, available in English, French and German).

Europe's meteorological satellite organisation, an updated version of our corporate flyer, gives an 'in-a-nutshell' overview of EUMETSAT (brochure number EUM.01, available in English, French and German).

Jason-2 – ocean observer in orbit is a 6-page leaflet describing the cooperative Jason-2 ocean observation programme (brochure number JSN.01, available in English and French).

All the above brochures can be viewed and downloaded as PDF files from our website at **www.eumetsat.int/en/area2/brochure.html.** To obtain printed copies please contact the User Service Helpdesk (see Users Platform on the left for contact details).

And coming soon:

With the first MSG satellite now operational and MSG-2 scheduled for launch in 2005 we will shortly be publishing a new edition of our technical brochure on MSG applications. Illustrated with new all-MSG imagery,

Meteosat Second Generation – in orbit, in use is a comprehensive 80-page publication which explains, and gives the latest status report on, the MSG system, its instruments and the range of applications served by the data they deliver. Timed for the launch of MSG-2, the brochure will be complemented by a less technical 8-page version which provides the general public with an inspiring introduction to the Meteosat Second Generation programme and its benefits.

GLOBAL SATELLITE UPDATE

Europe:

- **Meteosat-5** provides the Indian Ocean Data Coverage Service at 63°E. Subject to a successful launch of MSG-2, it is planned to replace it with the Meteosat-7 satellite in mid 2006, continuing the IODC coverage until end of 2008.
- **Meteosat-6** provides the operational Rapid Scanning Service and is the primary service backup at 10°E.
- **Meteosat-7** continues to operate at 0° longitude, in parallel with primary operational services from Meteosat-8 until the end of 2005.
- **Meteosat-8** (formerly MSG-1) has been fully operational since 29 January 2004 at 3.4°W. MSG SEVIRI image data are transmitted via EUMETCast, which provides coverage over Europe, Africa, the Middle East and parts of North and South America.
- **MSG-2** is planned for launch in the second half of 2005 and the first **Metop** satellite in April 2006.

USA:

- **GOES-12 (East)** is operating at 75°W as the GOES East operational spacecraft.
- **GOES-10 (West)** is operating at 135°W as the GOES West operational spacecraft.
- **GOES-9** has been stationed over the western Pacific Ocean at 155°E since May 2003 to provide operational data until Japan launches the next MTSAT satellite.
- **GOES-11** at 105°W is on standby as a backup for both GOES East and GOES West.
- **NOAA-17** has operated as the primary polar orbiting morning satellite since October 2002. This satellite is no longer providing data since a failure of its AMSU-A1 scan motor in October 2003.
- **NOAA-15** is the backup morning satellite with **NOAA-12** acting as a second standby morning satellite.
- **NOAA-16** is the primary polar orbiting afternoon satellite with **NOAA-14** as its backup.
- **GOES-8** (formerly GOES East) was deorbited on 5 May 2004.
- **NOAA-11** was decommissioned on 16 June 2004.
- **NOAA-N** and **GOES-N** are planned for launch in May 2005, with NOAA-N as a replacement for NOAA 16.

Russia:

- **Meteor-3M-N1** is operating in a polar sun-synchronous morning orbit at 99.7°.
- **Meteor-3M-N2** is planned for launch in 2006 and **Meteor-3M-N3** in 2008.
- **GOMS-N2/ Electro-L** is planned for launch in 2007 and will be positioned at 76°E.

China:

- **Fengyun-1D (FY-1D)** is the polar-orbiting meteorological satellite operating in a sun-synchronous early morning orbit.
- **FY-2C** was launched in October 2004 and replaces FY-2B at 105°E as the primary geostationary satellite.
- **FY-2B** was moved to 123.5°E to act as backup satellite.
- **FY-2D** and **FY-2E** are planned for launch in 2006 and 2009 respectively.
- **FY-3A**, the first of the second generation of Chinese polar orbiting meteorological satellites, is planned for launch in 2006. This will be followed by another six satellites in this series over the period 2006-2020.
- **FY-3B** is planned for launch in 2009.

Japan:

- **GMS-5**, launched in 1995, has been operating at 140°E well beyond its design lifetime of five years. VISSR observations from GMS-5 were discontinued on 22 May 2003 on commencement of backup operations using NOAA's GOES-9 at 155°E.
- **MTSAT-1R** was successfully launched on 26 February 2005.
- **MTSAT-2** will be launched in the 2005 Japanese Fiscal Year.

India:

- **KALPANA-1** (formerly METSAT), India's first exclusive meteorological satellite is positioned at 74°E.
- **INSAT-2E**, the last of the INSAT-2 satellite series carrying a meteorological payload, is operating at 83°E with CCD payload only.
- **INSAT-3A** is operating at 93.5°E.
- **INSAT-3D** is planned for launch in 2006.

EUMETSAT's 2005 Annual Meteorological Satellite Conference

Serene weather is expected to favour EUMETSAT's annual conference, which this year takes place on the shores of the Adriatic close to the historic walled town of Dubrovnik.

In keeping with tradition the conference's host and co-organiser is a meteorological institution, the Meteorological and Hydrological Service of Croatia. The event will provide a unique forum for members of the meteorological community to exchange ideas, and an opportunity for EUMETSAT to present its activities and future plans and gather input from our institutional users regarding their requirements. Over the years, the week-long conference has built a strong reputation, attracting up to 240 participants from around the globe.

The wide-ranging programme of sessions, presentations and workshops covers a representative variety of themes. Meteosat-8 will, of course, feature strongly on the programme, and there will be dedicated sessions on Climate Observations and Land Surface Applications, while a session on Clouds, Aerosols and Atmospheric Composition from Satellites will look at the multi-faceted challenges facing scientists in this highly specialised domain.

The conference takes place in Dubrovnik, Croatia, 19-23 September 2005. For programme and registration details visit: www.eumetsat.int/en/area2/topic3.html

The 6th EUMETSAT User Forum in Africa

Inauguration of the Republic of Congo's PUMA receiving station by Prime Minister Mr Mvouba

Representatives from 55 countries attended the 6th EUMETSAT User Forum in Brazzaville, the Republic of Congo, last September.

Key themes were the implementation of the Meteorological Transition in Africa Project (MTAP/PUMA), hydrology and water management in Africa and African Monitoring of the Environment for Sustainable Development (AMESD), the follow-on project to MTAP/PUMA.

Six pilot projects, all based on funding from the European Union, were presented at the Forum with the aim of nurturing partnerships and networking in support of long-term development efforts in Africa, while working sessions reviewed developments from EUMETSAT since the Dakar Forum of 2002.

Key presentations included a feasibility study on AMESD which, depending on EC approval and funding, could become active in the second half of 2005. The EC representative considered AMESD to be incorporated as a regional programme within the Global Monitoring for Environment and Security (GMES) initiative.

To view presentations and the final report, please visit: www.eumetsat.int/en/area2/proceedings/eump43/index.html