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### ESA workshop investigates how different data from different space agencies can work together

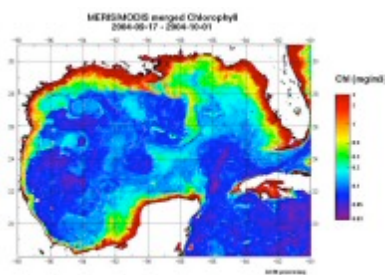
15 October 2004

This week over 50 scientists from all over the world gathered at ESA's establishment in the Netherlands to address the pressing issue of how to make

different Earth Observation data compatible.

Carol Johnson from the US National Institute of Standards and Technology explained that in order to effectively monitor our planet, it is essential that the multitude of observations made by different satellites from different space agencies are comparable, so that data can be efficiently combined to generate better products. "Evidence for the claim that our climate is rapidly changing can only be given when uncertainties in satellite data are at an absolute minimum", agreed Nigel Fox from the National Physical Laboratory in the UK.

The continuous observation of Earth from space is crucial if we are to monitor and understand our changing climate, and to that end a range of space-borne instruments is currently providing us with a wealth of information on many aspects of our environment. The Medium Resolution Imaging Spectrometer (MERIS) on Envisat, for example, is advancing our knowledge about ocean biology, marine water quality, vegetation on land, clouds and water vapour. Other instruments in polar orbit such as the MODerate resolution Imaging Spectrometer (MODIS), the Sea-viewing Wide Field of view Sensor (SeaWiFS) and the Multi-angle Imaging Spectro-Radiometer (MISR), as well as geostationary satellites like the Meteosat series all contribute enormously to monitoring the Earth and its environment on a global scale.



Data merged from MERIS and MODIS to produce an image of plankton concentration.

However, it is now imperative that observations made by different satellite instruments from different space agencies are not only well calibrated, but also comparable to enable the synergistic combination of data in order to lead to quantitative global data products. The issue of sustainable global monitoring, based on the compatibility of different sensors, was identified as a matter of priority by the Committee on Earth Observation Satellites (CEOS) through the

Working Group on Calibration and Validation (WGCV) and a specialised team therein called the Infrared Visible/Optical System Group (IVOS).

As a result, ESA and the IVOS Group organised a three-day 'Workshop on the Inter-Comparison of Large-Scale Optical Sensors'. The workshop took place on 12-14 October and proved to be a significant first step towards a global coordinated effort to achieve a common basis for the combination of optical satellite information from different sources.

Stephen Ungar, the Chairman of the CEOS Working Group on Calibration and Validation emphasised that, "It is important to ensure that the quality of different satellite data products are assured to



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enable the production of global timeseries with quantitative and geophysical meaning. This workshop has been instrumental in taking us nearer that goal, and represents a significant step in meeting the CEOS WGCV fundamental objective to ensure consistency of information derived from Earth Observation satellites, as well as from in-situ measurements."

"With 33 excellent presentations and very productive round-table discussions leading to a set of proposed future activities, the workshop exceeded expectations. The joint ESA/EU initiative on Global Monitoring for Environment and Securing (GMES) can only be successful if the operational services provided by satellites attain the requisite quality through adequately calibrated and validated data to analyse long-term trends in the Earth's environment and climate," stated Michael Rast from ESA, the organiser of the workshop.

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