Workshop on inter-comparison of large scale optical sensor at ESA ESTEC in October 2004.

CGMS is informed about a workshop at ESTEC as well as plans to extract experiences using large scale R&D sensors to improve calibration of operational sensors.

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1.- INTRODUCTION

With a view to the Earth's changing climate a close monitoring of our biosphere on a global level and continuous routine basis has become essential. Large scale satellite sensors are a critical component to ensure reliable and continuous observations for that purpose. It is imperative that observations made by the different sensors are stable over time and consistent across sensor systems, enabling synergistic combination of space-borne data from different sources leading to quantitative global data products derivable from multiple data sources.

At the last meeting of the CEOS Working Group Cal/Val Sub-Group for Infrared-Visible Optical Systems (IVOS) the inter-comparison of large scale optical sensors operated by different space agencies was addressed as an important issue. As a consequence, the organisation of a Workshop addressing the issue was proposed as a matter of priority.

2.- OBJECTIVE

It is the main goal of the workshop to present and exchange experiences and knowledge from work on inter-comparing optical large scale satellite sensor outputs at different (product level-) stages on their measurements and inter-changeability. This includes the evaluation and reduction of bias and validation of measurement- and product uncertainties at all levels. A "best practice" procedure is expected as one of the outputs of this experiment.
Initially, it is proposed to consider inter-comparison of "at sensor radiances" between currently deployed optical imaging space-borne sensors (e.g. AVHRR, MODIS, MISR, MERIS, AATSR, GLI, SeaWIFS, ASTER, Landsat and geostationary meteorological satellite sensors) over spatially and spectrally uniform targets.

3.- WORKSHOP

The workshop is earmarked for Tuesday to Thursday 12 - 14 of October 2004, at ESA-ESTEC in the Netherlands. A tentative (and not yet complete) list of topics for the Workshop has been established:

- Inter-comparison of large-scale data sets from different optical satellite sensors
- Hyperspectral imaging instrument calibration and inter-comparison
- Inter-comparison of satellite derived Land Surface Temperatures
- Inter-comparison of Infrared measurements over the ocean
- Celestial and onboard calibration methodologies and targets for in-flight calibration
- Requirements for improvement of pre-launch satellite calibration
- Techniques for Post-launch satellite sensor inter-comparison and calibration over land, over ocean and over clouds (incl/excl. in-situ deployment)
- Atmospheric correction procedures for large scale optical sensors

- Radiative transfer methods for forward simulation of large-scale optical satellite sensor measurements

The workshop is planned to be structured in 4-5 thematic sessions and shall accommodate 30-35 presentations. There are no parallel sessions foreseen. The workshop shall close with a round table discussion to establish a set of recommendations on the way forward.

An internet website for Workshop registration, hotel booking and other logistic information will be set up in the coming weeks.

4.- CONCLUSIONS

Contributions from members of the "Coordination Group for Meteorological Satellites (CGMS)" on experiences with inter-comparing and calibrating moderate resolution optical meteorological satellites is highly encouraged.