

WGCV CHAIR REPORT FROM CEOS PLENARY

Dr. Alan Belward, outgoing WGCV Chair, reported for the last time on activities since the last Plenary. WGCV met twice in 2000, once in India and once in the USA.

The issue of traceability to SI for Earth Observation measurements was dealt with, leading to the need for improved assessments of accuracy. Pre-launch calibration is aimed at verifying that the instrument meets specification, post-launch activities help guarantee the quality and accuracy of the product delivered to the users. There is a wide distance between the ideal case of an unbroken chain of traceability from pre-launch to post-launch and usual practices, even at their best. Recommendations were put forward to space agencies to give traceability of their Earth Observation sensors the highest priority.

Other activities in 2000 were mostly in refining a three-year work plan. The work plan focuses on five main areas:

- WGCV Plenary held once a year,
- WGCV sub-groups (SAR, microwave sensors, terrain mapping, land product validation, infrared and visible optical sensors),
- Communication with the community, mostly through the Web, which is in need of a professional scientific journalist,
- An on-line CAL/VAL dossier,
- CAL/VAL pilot projects, including a new IVOS project, which proposes a second international infrared radiometer calibration and inter-comparison mission) - financial support in the order of US\$41,400 is required, mostly for ship time.

In total ten recommendations were submitted by WGCV to the Plenary:

1. All EO measurement systems should be verified traceable to SI units for all appropriate measurands.
2. Pre-launch calibration should be performed using equipment and techniques that can be demonstrably traceable to, and consistent with, the SI system of units. Traceability should be maintained throughout the lifetime of the mission.
3. A task force should be established with ISPRS to standardise radiometric and geometric sensor parameter terms. CEOS agencies should nominate one person and support their participation in the task force.
4. CEOS Plenary should contact commercial operators of Earth observing satellites to ask them to agree to the free exchange of calibration and validation data as adopted by CEOS agencies.
5. CEOS Members should register any man made targets used for SAR calibration with the Cal/Val dossier. The targets should be made available to CEOS Members and CEOS Members should support an inter-comparison of the targets' performance.
6. Historical archives of spaceborne SAR data held by CEOS agencies should be opened to the scientific community at cost of reproduction.

7. Support for the maintenance and development of the Cal/Val dossier should be continued. CEOS agencies should also provide a link to the CEOS dossier from their own web sites either directly or via a link to the CEOS web site.
8. CEOS Plenary should identify funding source(s) to support the proposed second international infrared radiometer calibration and inter-comparison to calibrate and compare infrared radiometers used in the validation of the different surface temperature products derived from earth observation satellites. US\$41,400 are required for the workshop infrastructure, setting up of equipment in laboratories and for access to a ship for deploying instruments.
9. WGCV's communication with the community would benefit from the involvement of a scientific journalist to collate all relevant activities by WGCV agencies and to present this in a suitable manner. CEOS agency sponsorship is sought.
10. ESA put forward Yves-Louis Desnos as a nomination for the next Chair of WGCV. ISRO and CSIRO seconded the nomination and the ESA offer is presented for consideration at this 14th CEOS Plenary.

Last but not least the WGCV three-year plan was submitted to plenary for review and approval.

Following the presentation of all recommendations by Dr Belward, the CEOS Chairman put the recommendations for approval. The recommendations have been discussed and accepted with the following caveats:

- Recommendation 4, related to CEOS contacting commercial operators to ask them to agree to free availability of their Cal/Val data, raised some objections and was reworded as suggested by Dr. Smith
- Recommendation 6, proposing to open the historical SAR data archive to the scientific community at cost of reproduction, was amended to specify "for scientific purposes.
- Mr. Withee indicated that NOAA could help in solving the funding problem associated with Recommendation 8 (the IVOS project), but would like to see additional agencies and satellites instruments involved in it. Dr. Mohr for EUMETSAT is also willing to contribute, with the shared wish that as many radiometers as possible are involved in this mission.
- Recommendation 9, suggesting the involvement of a scientific journalist, was not taken up as an action, but the incoming CEOS Chair (NASDA) will inform WGCV later on the possibilities for such support.
- Recommendation 10, the nomination of Mr. Desnos as new WGCV Chairman, was approved by the Plenary.

The discussion finally translated into the resulting actions:

Action 14/16: ISPRS to identify the profile of participants required for a joint ISPRS/WGCV Task Force on radiometric and geometric standards and to provide this to the WGCV Secretariat (ydesnos@esa.int) by end of January 2001.

- Action 14/17: WGCV Secretariat to communicate this profile through the CEOS Secretariat to all CEOS agencies, who should each nominate one person and support their participation in the task force. This nomination should be made to the WGCV secretariat (ydesnos@esa.int) by end of May 2001.**
- Action 14/18: CEOS Chair to send a letter to commercial operators of EO satellites emphasizing the importance of sensor calibration and validation data for scientific uses and recommending that they should consider making available calibration and validation data concerning their sensors as necessary to support scientific applications.**
- Action 14/19: CEOS Members to review the detailed proposal for an international infrared radiometer calibration and inter-comparison exercise as distributed at the 14th CEOS Plenary. Offers of financial assistance should be made to the WGCV secretariat by the end of January 2001. Requests for participation by any CEOS Member not currently listed in the proposal are welcome and should be made to the WGCV secretariat (ydesnos@esa.int) by the end of January 2001.**
- Action 14/20: CEOS Members to register their man-made targets used for SAR calibration with the Cal/Val dossier by end of March 2001 (<http://spso.gsfc.nasa.gov/calval/>).**
- Action 14/21: CEOS Members and Associates to ensure that their Websites provide links to the CEOS Web pages.**
- Action 14/22: CEOS Members and Associates to review the new WGCV three-year work plan (version 2.4) as distributed at the 14th CEOS Plenary and submit comments to the WGCV secretariat (ydesnos@esa.int) by the end of January 2001. Those not responding will be presumed as concurring.**

In relation to sensor calibration and validation and disaster management, the issue of fire detection was brought into the discussion. Some current fire detection systems appear to yield too many false alerts. Dr. Belward said he believed this to be mostly due to immature detection algorithms rather than to sensor inadequacy. Dr. Cihlar shared this opinion and added that the algorithms developed for one type of land cover are being found not suitable for another (e.g. savanna vs. rain forest), which seems to indicate the need for regional algorithms. Dr. Belward informed the meeting that the fire detection issue was already being tackled by the Land Product Validation Subgroup of WGCV.

The Chair and Plenary all expressed their gratitude to WGCV and the sub groups.

At the end of Plenary Mr. Barbosa spoke briefly, making a positive evaluation of the meeting and thanking all who contributed to its organization and content. He then invited Dr. Alan Belward to the front, and presented him with a miniature of the INPE-built SCD-2 satellite in recognition of his four years' sterling service to CEOS as WGCV Chair. Responding to the Chair speech, Dr. Belward thanked INPE for the wonderful organization and spirit of the Plenary.

Among the actions arising from the secretariat meeting is the request to provide information on WGCV (Plenary and Subgroup) meeting dates by the 20th December 2000:

- WGCV-18 will be held in Frascati, Italy, hosted by the European Space Agency, from 5-7th June 2001.