WGCV Recommendations to CEOS Plenary

Recommendation 1

It is recommended that CEOS endorse the guidelines adopted by WGCV for Quality Assurance for Earth Observation (QA4EO).

Background: The guidelines are required for GEO Task DA-06-02 and serve as a basis for data inter-operability for generating long term satellite records.

Recommendation 2

CEOS advises the member agencies operating optical imagers, microwave sounders and radar systems, to acquire contemporaneously data over Dome C site during the January – February 2009 time frame. It is requested that for planning and coordination purposes, the agencies express their intent to participate by sending a letter to the WGCV chair, designating a contact person for the activity by the end of December.

Specific protocol of procedures, site coordinates and a timeframe are to be posted on the Cal/Val portal by the end of December 2008 and sent to the agencies that have stated intent to participate. Intent to participate has been already stated by CNES, CSA (SAR), ESA, NASA and NOAA.

Background: In support of GEO constellations and GEO task DA-06-02 and QA4EO, WGCV has scheduled for the January-February timeframe an instrument inter-comparison, using contemporaneously acquired satellite data over the same location/site. The objective is to determine the characteristics of Dome Concordia, Antarctica (Dome C site) for instrument inter-comparisons. Dome C site is to serve as basis for instrument-intercomparisons, when establishing long term stability records.

Recommendation 3

Background: GEOSS and CEOS recognize the importance of digital elevation models (DEMs) for GEO societal benefit areas and the downstream earth observing data services, and welcome the substantial progress made in recent years towards the provision of a global 30m Digital Elevation Model (DEM), although there are still deficiencies in coverage and in validation data.

Therefore, CEOS recommends that member agencies cooperate in the completion of a gap-free and validated DEM, in the June 2010 - June 2011 time frame, a key for the success of GEO task DA-07-01 *"Guidelines on Global DEM inter-operability"*.

This global DEM should include heights at 30m spacing over land based primarily on existing proven G-DEMs, such as that based on data from the ASTER sensor and for

bathymetry down to depths of 30-40m on continental shelves including the production of a much more accurate coastline especially in the Arctic region.

Recommendation 4

CEOS agencies, operating global middle resolution optical sensors (~30m, Landsat – like), such as CBERS (China and Brazil) and IRS P6 (India), to provide selected scenes and associated sensor characterization for the generation of 2010 global land cover dataset, which will be generated by NASA and distributed free of charge to the community.

Recommendation 5

! This is a draft, to be completed by the next WGCV30 (modified by Carol, needs input from Karen St. Germain, NOAA), October 22, 2008.

Background: GEOSS[1] and CEOS recognize that all spectroradiometric-based results from both operational and research Earth-observing radiometric satellites in the reflected solar and thermal emitted spectral regions[2] are strongly dependent on accurate and timely (e.g., simultaneous with satellite overpasses) *in situ* data sets for the purpose of vicarious calibration (as in ocean color), validation of data products, evaluation of sensor biases, and investigations of satellite sensor performance. However, the existence of these necessary measurement campaigns and/or *in situ* networks is not guaranteed as the respective satellite programs are generally not authorized to fund calibration or validation activities, which includes the long term maintenance of a continuous data set with established traceability.
CEOS advises the member agencies operating Earth-observing satellite sensors[3] to implement, by adequate and proper allocation of resources, the establishment of cal/val activities at the time of mission concept. CEOS also advises the member agencies of the long term and fundamental nature of such activities, with the consequence that these in situ programs must be maintained continuously into the future.

Recommendation 6 (ACSG, Bojan Bojkov)
Background/Problem: Air quality is an increasing priority with the space agencies (e.g. ESA, NASA, and NOAA) and has clear Societal Benefits. ACSG, e. g. Envisat-Sciamachy, Aura-OMI, MetOp-GOME/2 are already measuring many key tropospheric air quality constituents (NO2, HCHO, CHOCHO, SO2, etc.). There are however serious

[1] Not sure if GEOSS should be here.

[2] I am not well versed enough in all the subgroup disciplines to know if cal/val data is an absolute necessity for SAR, atmospheric correction, active vs passive remote sensing, etc, & I defer to those subgroup chairs. My perspective is primarily IVOS.

[3] Here we could spell out exactly what: imagers, spectroradiometers, atmospheric sounders, microwave sounders, radar systems, etc…..

limitations in the validation capabilities. In-situ measurements (from established networks) are not necessarily suitable for validation and/or are very difficult to interpret. A ground-based remote sensing effort is planed to quantify instruments and algorithms.

Recommendation:
CEOS, to encourage satellite agencies (esp. NASA and NOAA) to participate in the air quality ground instrument inter-comparison. The campaign is planned for the Summer of 2009.

Action:
NASA reps.: Maiden, Gutman to inform the appropriate NASA HQ official (? TBD).