12th GSICS EXECUTIVE PANEL ACTIONS AND CONCLUSIONS

The 12th session of the GSICS Executive Panel was held at the Earth System Science Interdisciplinary Center (ESSIC) in College Park, Maryland, United States, on 30 May and 1 June 2012.

I. List of actions and conclusions from GSICS EP-12

Action 1: EP Chair to establish a Task Force to review issues and propose actions towards improving accessibility of in-situ observations of test sites (2012-11-01)

The Panel endorses the exempt clauses to the GPPA as proposed by GCC to cope with the lack of response from beta-testers and with the possibility of missing non-critical documentation.

Action 2: GCC (Fangfang Yu) to update the GPPA in including two exempt clauses with a view to allow proceeding with pre-operational phase:
- based on internal feedback only if beta-testers are not responding, with the understanding that one should systematically seek external feedback
- with missing non-critical documentation, with the understanding that the documentation MUST be completed as soon as possible and in any case before the end of pre-operational phase. (2012-07-01)

Action 3: EUMETSAT, NOAA and JMA are urged to complete the necessary steps to submit their LEO-GEO IR product to the GPPA for pre-operational status in advance of the fourth GSICS Users' Workshop and WMO CBS. (2012-09-01)

Action 4: GRWG to investigate feasibility of intercalibration of reflected solar band instruments (including GOME-1, GOME-2, SCIAMACHY) with participation of ESA (2013-03-01)

The Panel endorsed the principle that, in addition to providing GSICS corrections on data servers through the GSICS product catalogue, the corrections be applied to compute corrected calibration information (e.g. corrected calibration coefficients) to be distributed in near-real time, as part of the L1 data format, in addition to the operational calibration information.

Action 5: Each GPRC to consider implementing the near real time distribution of *both* the operational calibration information *and* the corrected calibration information, as part of the L1 data formats. (2012-09-01)

Given the critical importance of space-based calibration reference standards, the Panel supports the proposed concept of flying a CLARREO-type payload aboard the ISS.

The Panel recognizes the high value of the lunar irradiance estimations computed from the ROLO model and welcomes the offer from USGS to maintain this model and to provide a lunar irradiance computation service, as a contribution from USGS to the GSICS community. It expects that USGS will ensure continuity of this service and, in accordance with the GSICS principles, will provide the required technical documentation (including ATBD)

allowing the GSICS developers to assess the reliability of these computations. It furthermore suggests that USGS explore how the ROLO model could be made directly available.

Action 6: WMO to convey to USGS the appreciation of GSICS regarding the provision of a lunar irradiance computation service based on the ROLO model and the expectation that this service will be maintained, will be documented in accordance with GSICS principles, and that the possibility be explored of providing the updated ROLO model itself to the community. (2013-11-01)

Action 7: NIST (Eric Shirley) to report on discussions on interagency R&D effort to improve the lunar model to meet the SI traceable absolute calibration accuracy goal, which should ultimately lead to an upgraded version of the ROLO lunar irradiance model. (2012-11-01)

Action 8: GCC to consider the 53 users that registered under potential " betatesters" and seek their active involvement (2012-06-30)

The Panel endorsed the on-line GSICS Product Catalogue concept and commended Aleksandar Jelenak, the GCC and the GDWG for this development.

The Panel endorsed the GDWG recommendation to implement the proposed netCDF format.

Action 9: Each GPRC to implement the agreed netCDF format.(2012-09-01)

The Panel reviewed the outstanding actions from previous meetings and closed 42 of the 51 actions. Some of the actions were replaced by new actions (See Actions 10 to 18 below).

Action 10: USGS to add the Russian Federation sites of Petergof and and Voeikovo to the USGS catalogue of worldwide test sites for sensor characterization. (2012-06-30)

Action 11: WGCV Chair to contact A. Uspensky to investigate suitability of Petergof and and Voeikovo test sites to support CEOS Cal/Val activities. (2012-06-30)

Action 12: WMO to invite representatives of the climate community (SCOPE-CM EP Chair J. Bates and Secretary L. Schueller) and to GEWEX Radiation panel (Chair Chris Kummerov and vice-chair Joerg Schulz) for an Executive Session to be organized in conjunction with the next Users' Workshop. (2012-06-30)

Action 13: EP Chairman and WMO to encourage EP members to volunteer as EP vice-chair in advance of EP-13 (2012-10-01)

Action 14: GRWG to invite ISCCP to present their findings at next joint meeting (2012-09-01)

Action 15: NIST (Eric Shirley) to review with Raju Datla the status and need of developing a draft vocabulary, as part of a guide on uncertainty for GSICS, and report to EP-13 (2012-10-01)

Action 16: IMD to request USGS (G. Chander) include the Jaisalmer test site in the USGS catalogue of worldwide test sites for sensor characterization (2012/06/30)

Action 17: GRWG Chair to report on GSICS traceability approach to the WGCV, with a view to seek feedback from WGCV. (20102-10-01)

Action 18: ESA (Bojan Bojkov) to report at GRWG on its survey on the state of the art for geolocation issues, and on ESA activity on this subject (2013-03-01

The Panel agreed to include the following statements in the minutes:

- *The panel emphasizes the great benefit gained from IASI as a reference instrument in addition to its direct use for atmospheric sounding. It strongly supports further developments that could improve traceability of measurements and reinforce this role of reference instrument for the next generation of IASI.*

- *The Panel Members acknowledged that the NOAA/NESDIS/STAR Integrated Calibration Validation System (ICVS) was an extremely valuable tool for instrument performance monitoring and recommended that all GPRCs consider this site as a model for instrument performance monitoring functionalities.*

The Panel endorsed the "GSICS Principles" presented by Tim Hewison as contained in Annex 1.

The Panel agreed that a text should be developed to describe the "Vision" of GSICS in 5-10 years, anticipating the space-based systems, applications, and the role that GSICS would be expected to play in this future context.

Action 19: WMO (J. Lafeuille) to circulate to the EP and GRWG and GDWG and GCC, a questionnaire to seek input regarding the long-term Vision of GSICS. (In advance of the 1st WEBEX meeting on 1-08), with a view to at least discuss a draft vision at EP-13. (2012-07-01)

The Panel endorsed the "Scope of GSICS" as defined in Annex 2.

The Panel endorsed the GSICS Documentation Plan with minor amendments, as contained in Annex 4.

Action 20: WMO (Jérôme Lafeuille) to circulate the draft outline of the revised GSICS Implementation Plan as discussed by EP-12, for review. (2012-06-15)

Action 21: All Panel members to review and comment on the draft outline of the GSICS Implementation Plan (2012-07-31).

The Panel recommended that all GPRCs use the same controlled vocabulary for event monitoring, to be defined by the GCC and GRWG and GDWG chairs.

Action 22: GDWG and EUMETSAT/CDWG to define a controlled vocabulary for instruments events (2012-11-01)

Action 23: NOAA (Fuzhong Weng) to explore possibility to hold a GSICS session during the NOAA 2013 Satellite Conference (8-12 April 2013, Miami)

Action 24: G. Chander, T. Hewison, X. Wu to include an introduction to GSICS in the preface of the special calibration issue of the IEEE transactions on geoscience and remote sensing.

The Panel approved the disclaimer presented by the GDWG Chair, as contained in Annex 3, and recommended its systematic inclusion in GSICS publications.

The Panel reviewed the status of the Operations Plan maintained by the GCC. It confirmed that the high-level priorities remained unchanged. For the purpose of action tracking, it was agreed that the Permanent Actions did not need to be listed in the Operations Plan updates.

The Panel was informed that Raju Datla was replaced in NIST by Eric Shirley and Didier Renaut replaced in CNES by Philippe Veyre. It invited USGS and CNES, respectively, to notify their new representation at the Executive Panel. It underlined the great contribution of Didier Renaut to involve CNES in GSICS as an active member. It expressed its appreciation to ESA for its participation and invited ESA to formalize its participation as a full member.

Action 25: CNES and NIST to notify their new representation in GSICS.

The Panel noted the common points of interest of GSICS and the CEOS/WGCV and the excellent cooperation among these groups, while acknowledging some differences in the main scope of activities and priorities. It recommended keeping systematically informed of each other's activity, consolidating the findings and adopting common practices or procedures when relevant. It noted the development of QA4EO.

The Panel welcomed the report from A. Trishchenko on the Polar Communications and Weather (PCW) satellite programme of Canada and noted the potential it would represent for inter-calibration.

The Panel welcomed the report from B. Bojkov on the recent ESA initiative to establish a Cal/Val Interest group (CVI) and the invitation to join and support this group.

The Panel welcomed the demonstration of the prototype version of the Observing System Capabilities Review and Analysis Tool (OSCAR) developed by the WMO Space Programme office, and looked forward to the completion and operational availability of this resource.

_____

II. Outstanding actions of previous EP meetings

(Only the actions remaining open on 2012-06-01)

Actions	Due date	Status as of 25/05/2012
Action EP-8.15: The Chairman (M. Goldberg) and Secretariat (J. Lafeuille) to set-up a bi-monthly Executive Panel teleconference. (The WEBEX system is available with WMO. Recommended time slot is 11:00 UTC (Summer) or 11:30 UTC (Winter), starting on 1/08/2012)	1/08/2012	Open.
Action EP-9.1: ISRO and the GCC to coordinate for the implementation of GEO-to-LEO algorithms by ISRO. (ISRO to contact Fred Wu and Fangfang Yu on NOAA side)	End 2012	Open.
Action EP-10.01: IMD (A.K. Sharma) with the assistance of GCC (Fangfang Yu) to get hold of the technical information on the GSICS Correction ATBD for GEO-LEO Infrared channels, and implement it for Kalpana.	End of 2012	Open
Action EP-10.12: GPRCs to undertake drafting an evaluation of uncertainty of the GEO-LEO Infrared product, taking advantage of the work done by EUMETSAT for its product.	Septemb er 2012	Open
Action EP-10.13: NASA to designate an expert from the NASA/JPL AIRS team to participate in GRWG activities on traceability.	August 2012	Open
Action: EP-10.18: NOAA (Mitch Goldberg) and EUMETSAT (Tim Hewison) to liaise with the SCOPE-CM Pilot Projects (1), (3) and (5) respectively, in order to better understand their needs and facilitate the finalization of the Statement of Needs.	August 2012	Open.
Action EP-10.27: WMO (J. Lafeuille) to circulate the proposed GSICS fact sheet to Executive Panel members for comments.	October 2012	Open
Action EP-10.30: ISRO to nominate points of contacts for the GSICS working groups (GRWG and GDWG).	August 2011	Open
Action EP-11.03: WMO (J. Lafeuille) to facilitate discussions with ECMWF and ROSHYDROMET/SRC Planeta (A. Uspensky) to explore potential monitoring of MTVZA-GY data to help characterizing sensor anomalies.	March 2012	Discussions held with ECMWF in March. But Roshydromet was not there. Keep open until CGMS-40, EP-13

ANNEX 1: GSICS PRINCIPLES

FOR THE GENERATION OF INTER-CALIBRATION PRODUCTS

GSICS performs systematic generation of inter-calibration products for Level 1 data from satellite sensors with the objective;

- To monitor and assess the calibration of satellite instruments by comparing them with community *references*,
  - using common methodologies,
  - following international standards and community best practices,
  - and, ultimately, tie these to SI-traceable standards.
- To generate *calibration corrections*
  - for both Near-Real-Time use and retrospective analyses
  - with specified uncertainties
  - through well-documented, peer-reviewed procedures
  - based on various techniques to ensure consistent and robust results, which are applicable over a broad range of observing conditions.
- To deliver these inter-calibration products to users
  - by providing free and open access,
  - adopting community data standards.
- To promote
  - greater understanding of instruments' absolute calibration by analysing the root causes of biases
  - better accuracy and global consistency of Level 2 products
  - inter-operability for more accurate environmental, climate and weather forecasting products

ANNEX 2: SCOPE OF GSICS

GSICS is an international effort to refine the calibration of Earth Observation instruments from weather and environmental satellites. It recognizes that the reliability of Earth Observation data for climate monitoring and operational applications requires accurate and consistent calibration among instruments of different satellites and programmes worldwide, over long periods of time, with traceability to common – and if possible absolute - references.

GSICS focuses on on-orbit instrument inter-calibration against space-based or ground-based common references, as part of a comprehensive strategy involving also:
- pre-launch SI traceable instrument characterization and calibration,
- on-orbit instrument performance monitoring,
- tying the measurements to absolute calibration standards, and
- enabling recalibration of archived data.

GSICS develops common methodologies, operational procedures and tools that are implemented and shared by GSICS member agencies in order to deliver products in accordance with community agreed best practices and standards. These GSICS products include operational calibration corrections, monitoring results, and related scientific and technical documentation. All GSICS data and products are made freely available through a range of data servers accessible from the GSICS portal: "**gsics.wmo.int**".

GSICS has been established in 2005 by WMO and the CGMS. It contributes to the integration of satellite data within the WMO Integrated Global Observing System (WIGOS) and within the Global Earth Observation System of Systems (GEOSS) of the Group on Earth Observations (GEO).

ANNEX 3: DISCLAIMER

Information delivered as a GSICS product is generated in accordance with GSICS principles and practices.

GSICS products are public and may be used and redistributed freely. Any publication using GSICS products should acknowledge both GSICS and the relevant data creator's organization.

Neither the data creator, nor the data publisher, nor any of their employees or contractors, makes any warranty on the data express or implied, including warranties of merchantability and fitness for a particular purpose, or any assumed legal liability for the accuracy, completeness, or usefulness, of this information.

ANNEX 4: GSICS DOCUMENTATION PLAN

Document	How large?	Diffusion	Goal	Who maintains?	How often?	Comment
Documents to be maintained						
Implementation Plan (To be redrafted)	12 p	Upon request	Basis for commitments of member agencies	WMO and GCC	As needed, typically 5 years	Includes a Vision for GSICS
Terms of Reference of EP, GDWG, GRWG	1 p per group	With the IP	Basis for commitments of EP, WG members	WMO	As needed, typically 5 years	Annex to the IP
Operations Plan	3-4 p	wiki	Reference for activity planning and monitoring	GCC	Semi-annual	Living document, updated after WG and before/after EP meeting
Procedures, best practices	As needed	wiki	Technical reference	GCC with GDWG, GRWG	As needed	Includes GPPA, etc
Factsheet	2 p	flyer web workshop	Outreach Introduction to GSICS	GCC/WMO with EP review	As needed, typically 2 years	Includes: scope, Principles Members
"Product roster"	As needed	web	Reference for users	GCC	As needed at least annual	Introduction and explanations to the Product Catalogue
Other documents						
Quarterly newsletter	Current format	Web and mailing list	Link across the GSICS community	GCC	Quarterly	Current contents is excellent
Overall GSICS scientific description	10 p	Journal or e.g. WMO Technical Document	For scientific community in/outside GSICS	GRWG	As needed, typically 5 years	See BAMS article as starting point
Other reports and assessments	as appropriate					