



Global Space-based Inter-calibration System



## **GSICS EXECUTIVE PANEL**

### **ELEVENTH SESSION**

St Petersburg, Russian Federation, 2 October 2011

## **FINAL REPORT**

## Executive Summary

The eleventh session of the GSICS Executive Panel (EP) was hosted by ROSHYDROMET in St Petersburg on 2 October 2011 in conjunction with the 39th session of CGMS.

The Panel noted the good progress made by both the GSICS Data Management Working Group (GDWG) and the GSICS Research Working Group (GRWG). It stressed the importance and the benefit of following a harmonized methodology throughout the agencies and encouraged IMD and ISRO to resume contact with the GSICS Coordination Centre (GCC) with a view to facilitate implementation of GSICS corrections on INSAT and Kalpana. The Panel invited the GCC to submit proposals for moving demonstration products to the pre-operational phase at the next EP meeting as soon as the GPPA criteria are met.

A comprehensive report was presented by Roshydromet, Roscosmos and the University of St Petersburg on calibration activities in the Russian Federation. As concerns VIS/IR instruments the Panel welcomed the intercomparison with AVHRR and planned intercomparison with Meteosat/SEVIRI. It was recommended performing intercalibration of Meteor-3M/MSU-MR and Elektro-L/MSU-GS with IASI, and NOAA offered to collaborate on this matter. As concerns microwave instruments, it was underscored that data monitoring by NWP centres could help to detect and diagnose sensor anomalies, e.g. in the case of permanent or transient discrepancies, and WMO was invited to facilitate discussion with ECMWF and ROSHYDROMET/SRC Planeta in this perspective. Finally, ROSHYDROMET was encouraged to contact the CEOS Working Group on Calibration and Validation to propose the inclusion of the Petergof and Voeikovo sites in the WGCV collection of cal/val sites.

Considering the planned constellation of microwave imager/sounders that will include MTVZA, MADRAS, and AMSR-2, the panel recommended scientific collaboration among ROSHYDROMET, ISRO, CNES, JAXA and NOAA on intercalibration of conical scanning microwave radiometers.

Reviewing the outcome of the 3rd Users' Workshop, the Panel appreciated the need to improve interactions with the climate community, especially as GSICS undertakes intercalibration of historical satellite datasets going back to 1979. The Panel agreed that the Chairs of the GEWEX Radiation Panel and/or of the SCOPE-CM Executive Panel could be invited to attend the GSICS Executive Panel as observers on a case-by case basis, and decided to plan for a dedicated "Executive Session" with such major users in conjunction with the future Users' Workshops.

From a broader perspective, the discussion also pointed out the need to put more emphasis on explaining the scope of GSICS, its operating principles and planned deliverables, and on the development of some independent assessment of GSICS calibration results. From a practical viewpoint, a clear and informative statement on the scope of GSICS should be delivered on the GSICS portal (<http://gsics.wmo.int>) together with the GSICS principles. The Panel welcomed the plan for a special issue of the IEE Transactions on Geoscience and Remote Sensing on calibration that would be led by GSICS and WGCV and open to contributions from a broad community.

Furthermore the Panel agreed that a GSICS EP Vice-chair should be nominated in order to assist the Chairperson or replace him in case of unavailability, and to prepare a smooth transition when the Chairperson reaches his term of office. The Panel considered this mechanism as an opportunity to introduce some geographical balance in the leadership of GSICS.

The Panel members thanked the Chairman for the comprehensive report on GSICS activities prepared for the CGMS session (CGMS-39 WMO-WP-03).

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## REPORT

### 1. Opening of the session

Dr Mitch Goldberg, Chairman, welcomed the participants (See list in Annex 1) to the eleventh Executive Panel (EP) meeting. He thanked Roshydromet for hosting the thirty-ninth annual meeting of the Coordination Group for Meteorological Satellites (CGMS-39) and for allowing the EP to be convened in conjunction with CGMS. He was particularly pleased that this would provide an opportunity for a strong participation of Roshydromet to the meeting agenda. In his opening remarks the Chairman underlined the growing membership of GSICS, which was both a condition and a sign of its success.

Barbara Ryan welcomed the participants on behalf of WMO. Jerome Lafeuille indicated that Didier Renaut (CNES), Jim Butler (NASA), Raju Datla (NIST), Gyanesh Chander (USGS) and the WGCV Chair (Greg Stensaas) had sent apologies.

The provisional agenda was adopted as contained in Annex 2, noting that in view of the limited time available the main focus of the meeting would be on the report from Roshydromet and the outcome of the third GSICS Users' Workshop.

### 2. Brief update on product developments (GRWG)

Jo Schmetz presented a brief update on product developments, on behalf of the GRWG Chairman (Tim Hewison):

- For GEO-LEO, the GSICS Near-Real Time and Re-analysis corrections are in demonstration stage for Meteosat, MTSAT and GOES imager; they are in development for GOES sounder and FY-2 satellites.
- For LEO-LEO: the Near-Real Time and Re-analysis corrections are in development for Metop/HIRS, NOAA/AVHRR and NOAA/HIRS.
- For LEO-LEO heritage instruments: a re-analysis correction is in demonstration for AVHRR (Visible), in development for HIRS, and proposed for ENVISAT/ATSR. It was clarified that the "products" related to heritage instruments (e.g. PATMOS-X) should be understood as "datasets"

The strategy adopted by GRWG for GEO-LEO solar products is to combine the use of various invariant targets such as deserts or Deep Convective Clouds (DCC), and direct comparison of ray-matched collocation observations. A Principal Investigator (PI) is designated for each method to conduct an error analysis and draft an outline ATBD. The GPRCs are encouraged to implement common versions of –at least- Rayleigh scattering, sun glint, and DCC. Results will be reported at the GRWG meeting in March 2012, with the aim to have products in the demonstration phase in 2012.

All GRWG actions are progressing well with the exception of some delay on the Instrument monitoring web site, liaison with SCOPE-CM, and validation of metadata and unit definition submitted to the NetCDF Climate Forecast convention (CF) committee.

### 3. Implementation and acceptance of new products

It had been agreed at EP-9 to work on the implementation of GSICS correction for INSAT and Kalpana. This action is in stand-by as there was no feedback from IMD and ISRO on this issue. The Panel stressed the importance and the benefit of following a harmonized methodology throughout the agencies and encouraged IMD and ISRO to resume contact with the GCC.

As concerns the products that are currently in Demonstration Phase, no proposal was submitted to the Panel to move to the pre-operational phase. The Panel invited the GCC to submit such proposals at the next EP meeting if relevant.

**Action 11.1:** GCC to submit to the Executive Panel demonstration products to enter the

pre-operational phase once GPPA criteria are met. (EP-12)

#### 4. Brief update on microwave activities

The GPM X-Cal working group was represented and participated actively in the third GSICS Users' Workshop. The discussion confirmed there was scope for applying the GSICS methodology to microwave instruments used in the GPM constellation.

JAXA representatives clarified that while the GPM X-Cal was a NASA-led project, the GPM mission was a NASA-JAXA cooperation. JAXA is also working on microwave calibration for its AMSR-2 instrument aboard GCOM-W. M. Goldberg indicated the strong interest of the USA for the JAXA GCOM-W / AMSR-2 mission, which will be an important complement to meet the JPSS objectives. Therefore, NOAA would be willing to financially support calibration activities for GCOM-W / AMSR-2 in the context of JPSS preparation.

#### 5. Calibration activities and plans in the Russian Federation

A. Uspenskyi gave a comprehensive presentation on calibration activities performed in the Russian Federation, as a collaboration among ROSHYDROMET, ROSCOSMOS and the State University of Saint Petersburg. It included reports on the 26-channel microwave imager sounder (MTVZA-GY) and the 6-channel multispectral VIS-IR imager MSU-MR, both on Meteor-M 1, and the 10-channel multispectral VIS-IR imager MSU-GS aboard Elektro-L 1. Information was also provided on the use of calibration sites for ground-truth measurement of meteorological and atmospheric composition parameters.

As concerns the MTVZA-GY, since temperature sounding channels (52-57 GHz) are not functional the effort is focused on the window channels, where possible electromagnetic interference needs to be checked, and the Water Vapour channels, with an objective to remove the bias. Inter-calibration of the 10.6 GHz channel with AMSR-E has been investigated until May 2010 (Note: Meanwhile Aqua/AMSR-E has stopped operation).

As concerns VIS/IR instruments, SNO comparisons of Meteor-3M/MSU-MR with AVHRR have proved satisfactory. As concerns Electro-L/MSU-GS, comparisons are planned with Meteosat/SEVIRI (located 0°) as part of the Electro-L 1 commissioning activities.

The Panel welcomed the detailed report from ROSHYDROMET and its partners and suggested to perform intercalibration of Meteor-3M/MSU-MR and Electro-L/MSU-GS with IASI. NOAA proposed its support in this area, for instance through hosting a visiting scientist. It was also highlighted that NWP centres were willing to assist in data monitoring, which could be extremely helpful to detect and diagnose sensor anomalies, e.g. in the case of permanent or transient discrepancies.

**Action 11.2:** ROSHYDROMET to contact the GCC (Fuzhong Weng ) and explore opportunities to send a visiting scientist to NOAA/NESDIS to collaborate on IR inter-calibration of MSU-MR, MSU-GS and IASI.

**Action 11.3:** 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.

#### 6. Data management and distribution (GDWG)

No issue was discussed under this item.

## 7. General Methodology and Infrastructure

The Panel appreciated the value of the calibration sites described in ROSHYDROMET's presentation and encouraged ROSHYDROMET to register these sites in the CEOS Working Group on Calibration Validation (WGCV) catalogue.

**Action 11.4:** ROSHYDROMET to contact the CEOS WGCV to propose inclusion of the Petergof and Voeikovo sites in the WGCV collection of cal/val sites. (See contacts on the following link: [Reference Test Site Data Collaboration and Comparison](#))

## 8. Other calibration issues to be considered by the Executive Panel

T. Igarashi indicated JAXA's wish to develop collaboration between the GPM X-CAL and GSICS on microwave calibration for GCOM-W1/AMSR-2, to be launched in 2012. JAXA's plans were to perform intercalibration of AMSR-2 with other A-train sensors (Including AMSR-E when this sensor was functional).

The panel recommended scientific collaboration among ROSHYDROMET, ISRO, CNES, JAXA and NOAA on the future constellation of conical scanning microwave radiometers that will include MTVZA, MADRAS, and AMSR-2.

**Action 11.5:** GRWG Chair (T. Hewison) to consider microwave conical scanning radiometer intercalibration in its future work plan.

**Action 11.6:** EP Chair (M. Goldberg) to coordinate with GPM X-Cal Chair to ensure that the activities of GSICS and GPM X-Cal well complement each other.

T. Kurino informed the Panel on JMA's involvement in GCOS Reference Upper-Air Network (GRUAN) activities and the hosting of the Fourth GRUAN Implementation Coordination meeting in Tokyo on 5-9 March 2012.

## 9. Outreach and Interaction with Users

### - *Outcome of third GSICS Users' Workshop*

The third GSICS Users Workshop resulted in excellent interactions between GSICS and the user community with over 50 attendees. External users have expressed very positive feedbacks on the GSICS Algorithm Theoretical Basis Documents (ATBDs) used for describing the GSICS correction products currently in the demonstration phase, and on the accessibility and usability of these GSICS correction products. Positive impacts using the GSICS corrections for geostationary infrared imagers were reported on derived products. Examples included improved cloud detection and cloud top temperatures, sea surface temperatures and clear sky radiances. Small, but statistically significant, improvements were found in the data assimilation of clear sky MSG imager radiances by NCEP. A discussion on "common reference imager channels" has led to an action to suggest to CGMS the development of guidelines for the design of future instruments, with a view of harmonizing key specifications of at least a set of core imager channels, for a better interoperability.

The Global Precipitation Mission Inter-satellite Calibration Group (GPM X-Cal) project scientist attended the workshop, which led to an agreement to continue to discuss how best to enhance collaboration. The X-Cal and GSICS working groups agreed to share data, models and documentation.

GSICS is willing to assist to evaluate X-Cal intercalibration algorithms using the GSICS Product Acceptance Procedures (GPPA).

The SCOPE-CM and GEWEX representatives expressed needs to improve interactions between the climate community and GSICS, especially understanding the role of GSICS in intercalibration of historical satellite datasets going back to 1979. An earlier suggestion to establish a User Board might be a way to strengthen interactions with SCOPE-CM at a proper strategic level. It is still the desire of GSICS for the GEWEX International Satellite Cloud Climatology Project (ISCCP) to validate the GSICS corrections and provide feedback.

The Panel agreed that the Chairs of the GEWEX Radiation Panel and/or of the SCOPE-CM Executive Panel could be invited to attend the GSICS Executive Panel as observers on a case-by case basis, depending on the agenda. It was also found appropriate to hold a dedicated “Executive Session” with such major users in conjunction with the Users’ Workshops.

**Action 11.7:** EP Chair and WMO to invite representatives of the climate community (e.g. SCOPE-CM EP Chair and GEWEX-RP Chair) for an Executive Session to be organized in conjunction with the next Users’ Workshop.

From a broader perspective, the discussion also pointed out the need to put more emphasis on explaining the scope of GSICS, its operating principles and planned deliverables, and on the development of some independent assessment of GSICS calibration results.

- ***Journal publications and participation in conferences***

The Panel reviewed the plan for a special issue of the IEE Transactions on Geoscience and Remote Sensing. It recommended not to restrict this issue to GSICS or WGCV members and, if possible, to postpone the deadline for paper submission in order to allow broader range of contributions. The Panel expressed its congratulations for swift progress of this action.

- ***Outreach actions (including web)***

With reference to the feedback from the Users’ Workshop, it was felt necessary to reinforce GSICS presence on the web. A clear statement on the scope of GSICS and the GSICS principles should be delivered on the GSICS portal ( <http://gsics.wmo.int> ). This should be informative and not overstating the activities and outcome of GSICS.

The proposed “principles” submitted by the GRWG Chair were found to be a very good basis. As concerns the science principles, the outcome should not be limited to the generation of FCDRs.

**Action 11.8:** GRWG, GDWG and GCC to refine the draft “GSICS principles” and submit them to the Executive Panel for endorsement.

**Action 11.9:** GCC and WMO to draft a statement on the scope of GSICS for inclusion in the portal, with the principles, and submit it to the Executive Panel for review.

## **10. Membership and Partnerships**

The Panel noted the comprehensive report on GSICS activities prepared by the Chairman for CGMS (CGMS-39 WMO-WP-03)

## **11. Overall work plan**

The status of actions was noted.

## **12. Nomination of Executive Panel Vice-Chair**

The Panel discussed the modality of nomination of the Chairperson and Vice-chairperson of the GSICS Executive Panel. It agreed that a Vice-chair should be nominated in order to assist the Chairman or replace him in case of unavailability, and prepare a smooth transition when the Chairperson reaches his term of office. The Panel furthermore considered this mechanism as an opportunity to introduce some geographical balance in the leadership of GSICS.

**Action 11.10:** WMO to invite the GSICS member organizations to propose a Vice-chairperson, and the GSICS Chair to inform the CGMS session accordingly.

## **13. Any other business**

No other business was discussed.

## **14. Date and place of next GSICS meetings**

The next GDWG-GRWG meeting will be held in Beijing, China, on 5 to 9 March 2012

The next Executive Panel meeting is to be scheduled.

**Action 11.11:** The Chair and WMO to schedule the 12<sup>th</sup> Executive Panel meeting.

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**LIST OF PARTICIPANTS**

<b>Organization</b>	<b>Name</b>	<b>Email</b>	<b>Capacity</b>
<b>CMA</b>	Peng Zhang	zhangp@cma.gov.cn	CMA Delegate
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<b>JMA</b>	Toshiyuki Kurino	tkurino@met.kishou.go.jp	Replacing Y. Tahara
	Hiroshi Kunimatsu	kunimatu@met.kishou.go.jp	Invited expert
<b>NOAA</b>	Mitch Goldberg	Mitch.Goldberg@noaa.gov	Chairman, NOAA Delegate
<b>ROSHYDROMET</b>	Alexander Uspensky	Uspensky@planet.iitp.ru	ROSHYDROMET Delegate
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WORLD METEOROLOGICAL ORGANIZATION

GSICS-EP-11 Agenda  
(1.VIII.2011)

GLOBAL SPACE-BASED INTERCALIBRATION SYSTEM

EXECUTIVE PANEL

ITEM: 1

ELEVENTH SESSION

St PETERSBURG, RUSSIAN FEDERATION, 2 OCTOBER 2011

Original: ENGLISH

### PROVISIONAL AGENDA

- 14:00     **1. Opening of the session**
- Welcome and introduction
  - Adoption of the agenda and meeting schedule
- 14:10     **2. Brief update on Product Developments (GRWG)**
- GEO-to-LEO Correction for Infrared Channels
  - LEO-to-LEO Correction for Infrared Channels
  - LEO-to-LEO Correction for Heritage Instruments
  - Solar Channel Calibration
- 14:30     **3. Implementation and Acceptance of New Products**
- Implementation of GSICS Correction in India (IMD and ISRO)
  - Pre-operational Acceptance of Demonstration Products (GCC)
- 14:50     **4. Brief update on Microwave Activities**
- Collaboration with GPM X-Cal (NOAA)
- 15:00     **5. Calibration activities and plans in Russian Federation**
- Report from Roshydromet and Roscosmos
- 15:20     Break
- 15:40     **6. Data management and distribution (GDWG)**
- Harmonized web interface for product distribution
  - GSICS products cataloguing, metadata issues
  - Instrument performance monitoring web-based information
- 16:00     **7. General Methodology and Infrastructure**
- Guide for Estimation of Uncertainty in GSICS intercomparisons (NIST)
  - User registration system (GDWG-GCC)
  - Calibration sites
- 16:20     **8. Other calibration issues to be considered by the Executive Panel**

- Issues raised by agencies requiring potential support or coordination by GSICS

16:30

**9. Outreach and Interaction with Users**

- Outcome of third GSICS Users' Workshop
- Journal publications and participation in conferences
- Outreach actions (including web)

16:45

**10. Membership and Partnerships**

- Evolving membership
- Coordination with CEOS WGCV
- Collaboration with SCOPE-CM (M. Goldberg)
- Report to CGMS

17:00

**11. Overall work plan**

- Updated work plan (GCC)
- Status of actions (J. Lafeuille)
- Summary of Executive Panel guidance for future actions

17:30

**12. Nomination of Executive Panel Vice-Chair**

17:40

**13. Any other business**

17:50

**14. Date and place of next GSICS meetings**

- Next GDWG-GRWG meeting
- Next Executive Panel meeting

18:00

**CLOSURE OF THE SESSION**

**LIST OF ACTIONS (as of 2 October 2011)****1. Outstanding Actions from Previous Meetings**

<b>Action</b>	<b>New due date</b>	<b>Status</b>
Action EP-3.6: GCC (F. Weng) will prepare a presentation on absolute calibration for MW channels at GRWG.	Next GRWG	Open. Update: Action is ongoing. The talk on the absolute calibration for MW channels was presented at past AMS and GPM X-CAL meetings in 2011. Will present it in the coming GRWG meeting.
Action EP-7.8: M. Goldberg to work with ISCCP to define the specifications of GSICS products, based on GSICS correction, to be used in ISCCP for comparative evaluation with the current ISCCP inter-calibration schemes, and to define practical modalities for such a test.	End of 2011 (New date)	Open. Action is ongoing. GSICS data have been provided to ISCCP for evaluation. ISCCP still needs to clarify its user requirements (e.g. monthly values ?) Update: on 09/26/2011, ISCCP contacted GCC to get familiar with the GEO-LEO IR products.
Action EP-8.10: WMO (J. Lafeuille) to circulate a draft revised documentation plan with more detailed contents of each document, as a prerequisite for developing these documents.	June 2011 (New date)	Open.
Action EP-8.12: NIST (R. Datla) to develop a draft vocabulary, as part of a future guide on uncertainty for GSICS.	June 2011 (New date)	Open. The Panel confirmed the interest for such a guide.
Action EP-8.15: The Chairman (M. Goldberg) and Secretariat (J. Lafeuille) to set-up a bi-monthly Executive Panel teleconference.	January 2011 (New date)	Open. The WEBEX system is available with WMO. Recommended time slot is 11:00 UTC (Summer) or 11:30 UTC (Winter)
Action EP-9.1: ISRO and the GCC to coordinate for the implementation of GEO-to-LEO algorithms by ISRO.	June 2011	Open. Following an ISRO visit to NOAA at the end of 2010, there was no feedback from ISRO. Points of contacts are Fred Wu and Fangfang Yu on NOAA side, need to be designated on ISRO side. Update: no contact from ISRO side yet.
Action EP-9.2: M. Goldberg will correspond with A. Hou (NASA) and propose a way forward for developing joint procedures among GSICS and GPM X-Cal when relevant.	June 2011	Open. Update: GPM X-CAL leader, Tim Wilheit contacted GCC on the cross-calibration of

		the high-frequency channels.
Action EP-9.6: GCC to investigate the consistency of sensor SRF information among the GCC and the WGCV websites and inform WGCV with a view to establish web links if appropriate.	June 2011	Open. Update: GCC is working on the SRF data base development
Action EP-10.01: IMD (A.K. Sharma) with the assistance of GCC (R. Iacovazzi) to get hold of the technical information on the GSICS Correction ATBD for GEO-LEO Infrared channels, and implement it for Kalpana.	End of 2011	Open Update: no contact from IMD yet.
Action EP-10.02: M. Goldberg, as CSICS EP Chairman, to communicate to the GEOS WGCV Chairman the recommendation from the GSICS Executive Panel that the Jaisalmer test site of IMD be considered by CEOS WGCV as a candidate cal/val site.	July 2011	Open
Action EP-10.03: IMD to take the necessary steps to submit the Jaisalmer test site to the CEOS WGCV as a cal/val site.	September 2011	Open
Action EP-10.04: GRWG to investigate methods to filter out erroneous data in order to mitigate diurnal effects such as midnight stray light, and recommend an update of the GSICS correction ATBD if relevant.	September 2011	Open
Action EP-10.05: WMO to communicate to NASA its support to the CLARREO project and express in particular the views of GSICS that a mission such as CLARREO would bring a unique benefit in providing absolute traceability and improved instrument inter-calibration, and therefore increase the value, of a number of other, either research or operational, environmental missions; WMO to express furthermore the expectation that the CLARREO mission be reconsidered for implementation in the coming years.	August 2011	Open  (Note: Action completed in February 2012)
Action EP-10.06: WMO to emphasize to EUMETSAT and CNES the great benefit gained from IASI as a reference instrument in addition to its direct use for atmospheric sounding, and to encourage further developments that could reinforce this role of reference instrument and further improve traceability of measurements for IASI follow-on instrument.	August 2011	Open
Action EP-10.07: NASA and the GRWG to investigate possible root causes for the SRF shift observed on the 13.9 $\mu\text{m}$ Channel of MODIS.	March 2012	Open

Action EP-10.08: JMA to analyze the midnight stray light behaviour of MTSAT-2 using as an example the analysis performed by NOAA on GOES-11 (See NOAA /GPRC Report to GSICS EP-10) and communicate its results to GRWG.	December 2011	Open
Action EP-10.09: GCC (R. Iacovazzi) to formulate the proposal for a centralized event monitoring log in the form of a CGMS working paper for submission to CGMS-39 in October 2011 by Mitch Goldberg, on behalf of GSICS. It is recommended to circulate the paper to CGMS members well in advance of the plenary meeting (early September) and invite members to provide feedback at the meeting.	Early September 2011	COMPLETED. NOAA-WP-21 was submitted to CGMS-39 with the event log proposal
Action EP-10.10: Executive Panel Members to review the NOAA instrument performance monitoring provided on the STAR Integrated Calibration Validation System (ICVS): <a href="http://www.star.nesdis.noaa.gov/smcd/spb/icvs/satMonitoring_n19_amax.php">http://www.star.nesdis.noaa.gov/smcd/spb/icvs/satMonitoring_n19_amax.php</a> , (also described in CGMS-38 NOAA-WP-21), to provide comments, and to indicate whether they would be ready to publish equivalent information for the instruments they are operating.	September 2011	Open Update: ongoing  Executive panel should get consensus from the members. Need the interest and participation of each agency on this topic.
Action EP-10.11: GRWG Chair to propose to give a presentation on GSICS traceability approach to WGCV/IVOS with a view to seek feedback from WGCV/IVOS on this matter.	March 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.	September 2011	Open NOAA: will submit it by Oct. 2011
Action EP-10.13: NASA to designate an expert from the NASA/JPL AIRS team to participate in GRWG activities on traceability.	August 2011	Open
Action EP-10.14: WMO (Nils Hettich), GDWG Chair (Aleksandar Jelenak), and EUMETSAT (Peter Miu) to evaluate the proposal to develop centrally an interactive page for instrument bias monitoring (technical complexity, effort needed, security constraints, sustainability) and report to the Executive Panel with recommendations for a way forward.	EP-11 (2 October 2011)	Open
Action EP-10.15: GDWG Chair to ensure that the workshop is invited to provide feedback on the proposed bias monitoring interfaces.	6 September 2011	Open

Action EP-10.16: GPRCs to report to GDWG Chair (through their GDWG representative) on details of collocated datasets generated on a regular basis (what instrument pairs, file size, format, etc) with a view to evaluate the feasibility of archiving this data and making it available in an harmonized fashion.	July 2011	Open
Action: EP-10.17: GRWG Chair to ensure that the GRWG is kept abreast of the progress made by WGCV/IVOS on navigation issues.	March 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 2011	Open
Action EP-10.19: GDWG Chair to send the proposed texts of the registration form and emails for review.	15 June 2011 (for feedback by 15 July 2011)	COMPLETED
Action EP-10.20: GCC to implement the user registration system as proposed, as far as possible in advance of the 3 <sup>rd</sup> User Workshop.	August 2011	COMPLETED
Action EP-10.21: Executive Panel members to review the existing “disclaimers” displayed on the GCC web site and provide guidance to the GCC (R. Iacovazzi) regarding the “Disclaimers” and “Terms of Use” needed for GSICS products.	15 July 2011	Open Update: ongoing  Executive panel should get consensus from the members. Need the interest and participation of each agency on this topic.
Action EP-10.22: GDWG Chair to propose updated “Disclaimers” and “Terms of Use” to be displayed on all GSICS web sites, including the GPRC web sites, the GCC, and the data servers, in the pages used to access technical information.	July 2011	Open
Action EP-10.23: GSICS Executive Panel Chair to communicate with WGCV Chair the understanding of the respective focus of GSICS and of WGCV and the proposed topics of cooperation.	15 July 2011	Open
Action EP-10.24: GSICS Executive Panel members willing to contribute to the preparation of the GSICS User Workshop to nominate a representative to the Workshop Organization Committee and inform Tim Hewison accordingly.	September 2011	COMPLETED

Action EP-10.25: Tim Hewison, Gyanesh Chander and Xiangqian (Fred) Wu to proceed with the preparation of a special issue of the journal as proposed to the Executive Panel.	June 2011	Open See presentation to EP-11 under item 9.3.
Action EP-10.26: J. Schmetz to circulate the GSICS description in the CGMS web site to Executive Panel members for comments. (15 June 2011, comments by 15 July 2011).	June 2011	COMPLETED
Action EP-10.27: WMO (J. Lafeuille) to circulate the proposed GSICS fact sheet to Executive Panel members for comments.	October 2011	Open
Action EP-10.28: All EP members to review the Operations Plan (once updated with the actions from the EP-10) and provide feedback at the next teleconference.	September 2011	Open
Action EP-10.29: WMO (J. Lafeuille) to communicate to CGMS the proposed statement on inter-calibration to be included in the new CGMS baseline for the space-based GOS.	September 2011	COMPLETED In CGMS-39 WMO-WP-02
Action EP-10.30: ISRO to nominate points of contacts for the GSICS working groups (GRWG and GDWG).	August 2011	Open
Action EP-10.31: In the light of the material readily available from the ASIC3 report, WMO to send a more precise request to NOAA to contribute to the section on Calibration and Validation issues in the CIMO Guide update.	August 2011	Open
Action EP-10.32: GSICS members willing to host future Executive Panel meetings to submit a firm proposal to WMO in advance of, or at the latest by the time of, the CGMS plenary meeting.	2 October 2011	Open

## 2. New actions from GSICS EP-11

Actions	Due date
<b>Action EP-11.01:</b> GCC to submit to the Executive Panel demonstration products to enter the pre-operational phase once GPPA criteria are met.	EP-12
<b>Action EP-11.02:</b> ROSHYDROMET to contact the GCC (Fuzhong Weng ) and explore opportunities to send a visiting scientist to NOAA/NESDIS to collaborate on IR inter-calibration of MSU-MR, MSU-GS and IASI.	March 2012
<b>Action EP-11.03:</b> 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
<b>Action EP-11.04:</b> ROSHYDROMET to contact the CEOS WGCV to propose inclusion of the Petergof and Voeikovo sites in the WGCV collection of cal/val sites. (See contacts on the following link: <a href="#">Reference Test Site Data Collaboration and Comparison</a> )	March 2012
<b>Action EP-11.05:</b> GRWG Chair (T. Hewison) to consider microwave conical scanning radiometer intercalibration in its future work plan.	March 2012
<b>Action EP-11.06:</b> EP Chair (M. Goldberg) to coordinate with GPM X-Cal Chair to ensure that the activities of GSICS and GPM X-Cal well complement each other.	March 2012
<b>Action EP-11.07:</b> EP Chair and WMO to invite representatives of the climate community (e.g. SCOPE-CM EP Chair and GEWEX-RP Chair) for an Executive Session to be organized in conjunction with the next Users' Workshop.	August 2012
<b>Action EP-11.08:</b> GRWG, GDWG and GCC to refine the draft "GSICS principles" and submit them to the Executive Panel for endorsement.	May 2012
<b>Action EP-11.09:</b> GCC and WMO to draft a statement on the scope of GSICS for inclusion in the portal, with the principles, and submit it to the Executive Panel for review.	May 2012
<b>Action EP-11.10:</b> WMO to invite the GSICS member organizations to propose a Vice-chairperson, and the GSICS Chair to inform the CGMS session accordingly.	May 2012
<b>Action EP-11.11:</b> Chair and WMO to schedule the 12th Executive Panel meeting	March 2012