Item 13:

GIRO and GSICS Lunar Observation Dataset Usage Policy

Document provided by EUMETSAT

The attached document was developed by EUMETSAT in consultation within GRWG, GDWG and the experts participating in the lunar calibration activities. It is submitted for approval by EP members.

Subsequently the EP members will be invited to notify the agreement of their respective agencies to the policy defined by this document. The agencies participating in lunar calibration activities but which are not GSICS members will be approached directly to notify their agreement.

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GSICS-RD005

Global Satellite Inter-Calibration System

GIRO and GSICS Lunar Observation Dataset Usage Policy

Version 1.0
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EUMETSAT

RECORD OF DOCUMENT CHANGES

Version	Date	Nature of change	Done by	Approved
1.0	07.05.2015	Creation	S. Wagner (EUMETSAT)	

Contents

GIRO and GSICS Lunar Observation Dataset Usage Policy

1. Introduction

1.1. Purpose

The establishment of the GSICS Implementation of the ROLO (GIRO) model and the GSICS Lunar Observation Dataset (GLOD) is a collaborative effort to define a common unique calibration reference at international level and to achieve instrument inter-calibration based on this common reference. In order to ensure traceability the following collaboration framework has been defined: USGS is responsible for developing and improving the ROLO model; a unique GIRO Implementing Agency (currently EUMETSAT) is designated within GSICS to be responsible for implementing, verifying and validating these enhancements once they are released in the public domain through scientific publications. The GIRO Implementing Agency is also responsible for maintaining and distributing the GIRO and the GLOD.

The purpose of this document is to define a policy applicable to the use of the GIRO model and to the use of the GLOD, and to establish a Lunar Calibration Board in charge of reviewing the requests to access the GIRO and the GLOD, and of reviewing potential enhancements to the GIRO.

Participation in GIRO and GLOD does not restrict agencies from distributing, publishing or applying their own data sets and any component data sets obtained from other sources or by other agreements

1.2. Scope

This document is targeting the *Lunar Calibration Community*, which is primarily defined as the GSICS and CEOS/IVOS member agencies agreeing to use the GIRO and to contribute data to the GLOD according to this policy. This community was initially represented by the participants in the first GSICS-CEOS/IVOS Lunar Calibration Workshop organized in December 2014 at EUMETSAT headquarters [RD-1][RD-2]. It is meant to grow with time as new partners and new missions gain lunar observation capabilities.

This policy is compliant with EUMETSAT data sharing policy. It was also agreed with the Lunar Calibration Community at the first GSICS-CEOS/IVOS Lunar Calibration Workshop.

Any evolution of the present policy will require the majority agreement of the Lunar Calibration Community as established at the time of the proposed change.

1.3. Applicable Documents

None.

1.4. Reference Documents

[RD-1]	Summary of the first GSICS – CEOS/IVOS	*https://gsics.nesdis.noaa.gov/wiki/Developme*

	Lunar Calibration Workshop	*nt/LunarCalibrationWorkshop*
[RD-2]	*Minutes of the first GSICS – CEOS/IVOS Lunar Calibration Workshop*	*https://gsics.nesdis.noaa.gov/wiki/Developme nt/LunarCalibrationWorkshop*

1.5. Document Structure

Section 1   General information (this section).

Section 2   Definition of the GIRO usage policy.

Section 3   Definition of the GSICS Lunar Observation Dataset policy.

Section 4   How to get access to the GIRO and to the GLOD.

Section 5   Establishment of a Lunar Calibration Review Board.

2. GIRO usage policy

2.1. Applicability

The present policy applies to members of the Lunar Calibration Community. This policy includes the use of the GIRO executables and the use of the code sources. Access to the GIRO is subject to agreement with the present policy.

2.2. Terms of use of the GIRO

The GIRO is the publicly available reference for lunar calibration. As such, this implies that:

1. The GIRO shall be used only for the instrument(s) specified by the user's request for access. As stated in Section 3.b of the GLOD policy, users agree to provide a representative data set of each of those instruments. Access to the GIRO is granted only in conjunction with providing lunar observation data to the GLOD.
2. Users of the GIRO shall not distribute copies of the GIRO (executable or code) outside their organization. Access requests shall be made through EUMETSAT's point of contact (see Section 4). Subcontractors may be provided with GIRO by agreement of the prime contractor, through whom all communication will take place. In this case, the GIRO and GLOD policy applies automatically to subcontractors.
3. Only the GIRO version as provided by the GIRO Implementing Agency shall be referred to as the GIRO reference.
4. Reference to the GIRO shall state the number of the version used for data processing.
5. Local implementation:
    a. For operational needs, agencies may implement their own version of the GIRO. This version shall NOT be referenced as the GIRO but as the agency's implementation. A clear distinction shall be made in order to preserve traceability and prevent confusion.

b. In the eventuality of a local implementation of the GIRO, an assessment of the associated uncertainties is recommended and should be made available to the Lunar Calibration Community (as defined in Section 1.b) in order to maintain calibration traceability. Only differences significant with respect to machine precision need be reported.

c. In the eventuality of a local implementation of the GIRO, a reference to the GIRO and acknowledgement to the GIRO Implementing Agency are requested when presenting technical reports, scientific publications and presentations.

6. Modifications to the source code can be proposed to the Lunar Calibration Community. These modifications shall be reviewed by a nominated board endorsed by the Lunar Calibration Community (see Section 5). This review is meant to assess the benefits of the proposed modification for the lunar calibration reference. A written review shall be made available to the Lunar Calibration Workshop community. The GIRO Implementing Agency implements the agreed enhancements if any. After a full verification and validation is completed using the checking procedure (under preparation) on the test dataset (under preparation), a new version of the GIRO will be released.

3. GSICS Lunar Observation Dataset policy

3.1. Applicability

The present policy applies to members of the Lunar Calibration Community. This policy defines the use of the GSICS Lunar Observation Dataset (GLOD). Access to the GLOD is subject to agreement with the present policy.

3.2. Definition of the GSICS Lunar Observation Dataset

The GSICS Lunar Observation Dataset contains exclusively input files to the GIRO, that is:
1. The instrument spectral response functions
2. The lunar observation data

The GLOD is stored in a centralized repository managed by the GSICS Data Working Group.
Access to the GIRO and to the GLOD is granted exclusively upon the provision of these files for each monitored instrument. In the case of future missions (it means that no data is available yet), users are expected to fulfill this requirement once the mission is launched upon a gentlemen's agreement. The lunar observation data shall be representative of typical lunar observations made by the instrument and cover the range of typical observed phase angles.
The spectral response functions files shall be formatted following GSICS standards (https://gsics.nesdis.noaa.gov/wiki/Development/WebHome).
The format for lunar observation data files is defined in the following document:
https://gsics.nesdis.noaa.gov/pub/Development/LunarWorkArea/GSICS_ROLO_HighLevDescript_IODefinition.pdf.

Only the compulsory inputs are required into the lunar observation data files. Users are invited to provide also additional fields such as the Moon imagettes to allow further sanity checks at processing time. However these additional fields are not compulsory to run the GIRO.

3.3. Terms of use of the existing GSICS Lunar Observation Dataset

1. Users of the GLOD shall not distribute copies of the dataset outside their organization. Access requests shall be made through EUMETSAT's point of contact (see Section 4).
2. Users of the GLOD are granted access to all existing lunar observations and spectral response function files.
3. When using data from different instruments, users shall send for pre-publication review to the respective data owners a copy of any publication coming out from their work to ensure data are used in an appropriate manner.
4. In order to ensure traceability and visibility in scientific and technical communications, the version of the datasets scoped by these communications should be indicated when presenting results using the GIRO or local implementations of the GIRO.
5. Co-authorship might be offered in case of an extensive use of specific instrument datasets or in case of additional support from members of the Lunar Calibration Community.
6. Acknowledgement to the data providers is required as a minimum.
7. Acknowledgement to GSICS is required for making the GIRO and the GLOD available.

3.4. Extending the GLOD

The GLOD is expected to grow with data from past and present instruments for which lunar observations still have to be extracted and processed. Future missions may have more opportunities to observe the Moon and are expected to complement the GLOD.
Existing instrument datasets may also be modified when image processing is improved. In order to keep track of the changes, a version number will be assigned to each contribution to the GLOD. Additionally, the following practices shall apply:
1. The changes leading to the dataset update shall be documented in a release note by the data provider. In particular, the fields from the GIRO input (NetCDF files) affected by these changes shall be listed (similarly to what is done for the GIRO releases).

4. How to get access to the GIRO and to the GLOD

The access to the GIRO and to the GLOD is password protected.
An email shall be sent to EUMETSAT Service Desk (ops – at – eumetsat.int) to request access to the GIRO and to the GLOD. A description of the intended work should be provided together with a detailed description of the instrument the GIRO is meant to be applied to in order to support the application. This application will be reviewed by a review board as established in Section 5 before access is provided. The approval of a request to access the GIRO and to the GLOD is upon the acceptance of the present GIRO and GLOD usage and sharing policy. Therefore the request should clearly state that the user agrees with all terms of the present policy.

5. Establishment of a Lunar Calibration review board: roles and responsibilities

A review board is established within the Lunar Calibration Community to decide about:
- Access to the GIRO and the GLOD
- Enhancements to be implemented in the GIRO

This board is initially composed of seven members: the representatives of CNES, EUMETSAT, NASA and USGS (as the organisers and/or main contributors of the first Lunar Calibration Workshop), the chair of the GSICS Research Working Group, the chair of the GSICS Data Working group and the chair of CEOS-IVOS.

The roles and responsibilities of the board include:
1. Review applications for access to the GIRO and GLOD. The review board shall provide a recommendation to the applicant on the use of the GIRO for their instrument, in particular if some instrument configurations or if the acquisition mechanism or the sensor technology exceeds the GIRO current capabilities and assumptions.
2. Review proposed enhancements to the GIRO model. A report of the review process shall be written and signed by the members of the board for traceability.
3. Reporting to the GSICS Research Working and to CEOS-IVOS the status of the activities related to the GIRO and GLOD.

Decisions of this review board shall be based on majority vote.