The Global Space-based Inter-Calibration System

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GSICS Executive Panel chair
NOAA/NESDIS
GSICS Official Members

- NOAA
- NIST
- NASA
- EUMETSAT
- CNES
- CMA
- JMA
- KMA
- WMO
- ISRO

- IMD
- JAXA
- USGS
- ROSHYDROMET
- ESA (observer)

CEOS Precipitation Constellation is working with GSICS via GPM X-Cal Working Group.

GSICS current focus is on the intercalibration of operational satellites, and makes use of key research instruments such as AIRS and MODIS as reference instruments for the operational instruments.
First international coordinated GSICS project is the intercalibration of geostationary infrared channels with IASI and AIRS.
Near-real time monitoring and correction for six operational GEO with baseline algorithm.
Example of GSICS Bias Monitoring
From JMA: Time Series of MTSAT-1R-IASI/AIRS Standard Biases [K]
Example of GSICS Bias Monitoring
From EUMETSAT: Time Series of Meteosat9-IASI Standard Biases [K]
Example of GSICS Bias Monitoring
From NOAA: Time Series of GOES12-AIRS Standard Biases [K]
Example of GSICS Bias Monitoring
From CMA: Time Series of FY2D-IASI Standard Biases [K]
GSICS Procedure for Product Acceptance

- Products progress from
  - Demonstration Mode
- Through
  - Pre-Operational Mode
- To
  - Operational Mode
- By a series of reviews
- Over period of ~1.5yr
- Subject to meeting
  - acceptance criteria
Recommended Action

- 39.XX: IMD and ROSHYDROMET to present papers at CGMS-40 on progress towards implementing GEO to LEO corrections and bias monitoring established by NOAA, EUMETSAT, KMA, JMA and CMA
Satellite Integrated Calibration / Validation System (ICVS)

NOAA-18 MHS Instrument Performance Monitoring

Please select the instrument performance index & press 'Display' Button

- MHS NEAT
  - H-3
  - Display
- MHS Gain
  - 10-Day Snapshot
  - Display
- MHS Space View Count
  - 10-Day Snapshot
  - Display
- MHS PRT Temperature
  - OBCT PRT Temperature
  - Display
- MHS Local Oscillator Temperature
  - H-1
  - Display
- MHS Mixer/LNA Temperature
  - H-1
  - Display
- MHS Status
  - Weekly Orbit Status
  - Display

NOAA-18 MHS NEAT

(Updated at Wed Mar 2 02:33:54 2011 UTC)

H3 NEAT (10 Days) *** Specification XXX Pre-Launch

Data and images displayed on STAR sites are provided for experimental use only and are not official operational NOAA products. More information >>
Recommended Action

- 39.XX: CGMS agencies to report at CGMS-39 on activities to implement web-accessible instrument monitoring website.
User Engagement

THE GLOBAL SPACE-BASED INTER-CALIBRATION SYSTEM


An international project will tie observations from operational low-earth-orbiting and geostationary environmental satellites to those from in-orbit sensors that serve as calibration standards.

Improved calibration of space-based Earth-observing instruments is a fundamental, urgent scientific need. There is an increasing demand for more accurate measurements and intercalibration of observations from different instruments in response to such issues as interoperability within the Global Earth Observation System of Systems (GEOSS), data assimilation in numerical weather prediction (NWP), climate change detection, and near-real-time operational applications. For example, as NWP models become more reliable, their appetite for more accurate data input steadily grows. As the requirements for monitoring global climate become clearer (Ohring et al. 2005)—temperature changes as tiny as a few tenths of a degree per decade—
Recommended Actions

• CGMS to nominate vice chair for GSICS

• CGMS agencies to consider hosting GSICS EP-12 meeting in Spring 2012