ISRO Agency Report

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Presentation Overview

- ISRO's GSICS Activities, Action & Achievements Summary
- ISRO's support to GDWG Activities
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- ISRO's Instruments Updates & Planned
- Introduce/Confirm the Agency's Personnel supporting GSICS

ISRO's GSICS Activities, Action & Achievements Summary

- *INSAT-3D and INSAT-3DR Imager GSICS coefficients are regularly generated.*
- *Ray-tracing method is developed for inter-calibration of INSAT-3D/3DR Visible and SWIR channels using Aqua-MODIS data.*
- *GEO-GEO inter-calibration initiated using MSG-SEVIRI (IODC coverage)*
- *NWP model and radiative transfer model based methodology is initiated to validate the efficacy of GSICS coefficients for INSAT-3D/3DR IR Imager channels.*
- *A procedure is established to inter-calibrate INSAT-3D and INSAT-3DR IR Imager channels using CrIS data. At present no delta correction is applied.*
- *INSAT-3D and INSAT-3DR relative calibration exercise has been completed.*

Support to GDWG Activities

- *Development of the plotting tool for ISRO's GSICS products*
  - *IASI data received through Eumetcast is being used operationally*
  - *IASI data through Eumetsat THREDDS Server Standing order : fall-back option*
  - *Started using MetOp-C data since Nov 2020.*
  - *Plotting tool for ISRO products developed*
  - *Plotting tool interface for RAC product under development/testing.*

Highlights ISRO's support to GRWG activities

- *Ray-tracing method is developed for inter-calibration of INSAT-3D/3DR visible and SWIR channels using Aqua-MODIS data.*

- *NWP model and radiative transfer model based methodology is initiated to validate the efficacy of GSICS coefficients for INSAT-3D/3DR IR imager channels.*

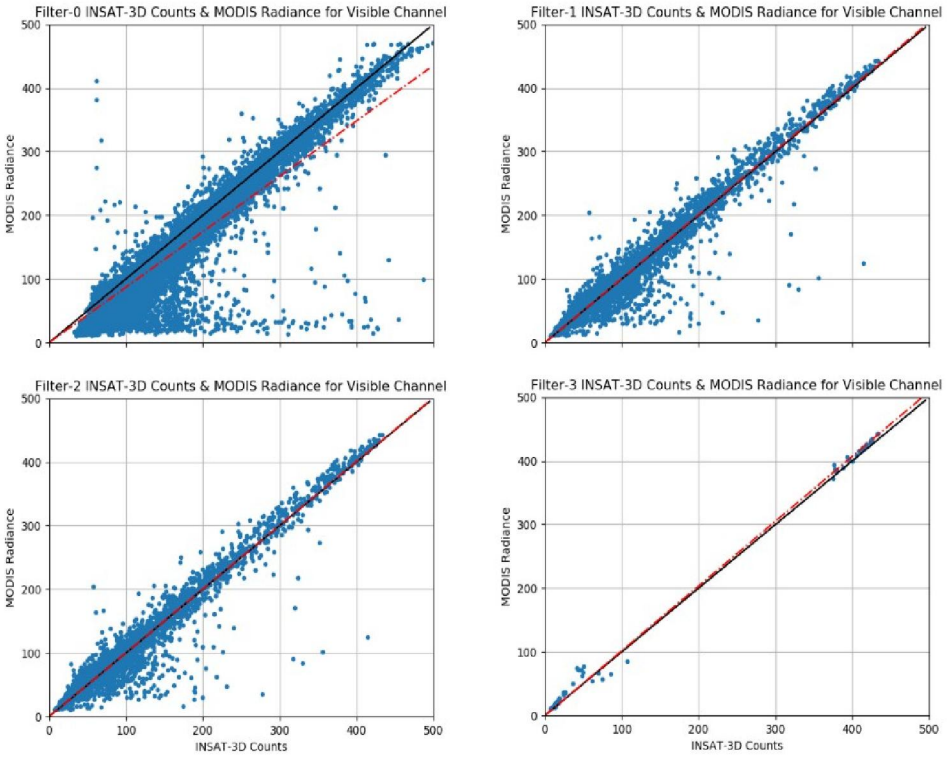
INSAT-3D Visible (Jan-Feb 2019)

	No. of Collocated Points	Slope	Bias	Std	R^2	Skewness	Kurtosis
Filter-0	17353	0.87	-6.33	33.81	0.87	-4.04	53.77
Filter-1	4877	1.01	1.38	20.14	0.95	-4.11	39.50
Filter-2	4167	1.00	1.43	21.10	0.95	-4.10	37.28
Filter-3	108	1.02	3.86	8.13	0.99	0.50	4.19

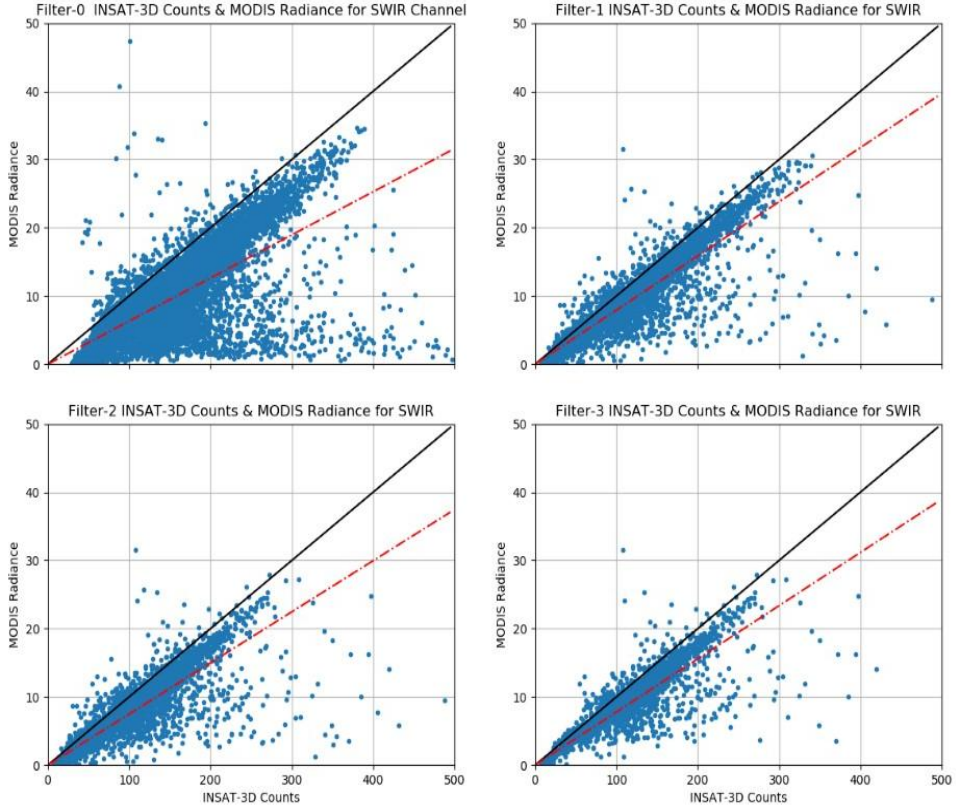
INSAT-3D SWIR (Jan-Feb2019)

	No. of Collocated Points	Slope	Bias	Std	R^2	Skewness	Kurtosis
Filter-0	17353	0.06	0.16	4.31	0.52	-2.94	31.4
Filter-1	4877	0.08	0.15	2.99	0.74	-3.78	34.91
Filter-2	4167	0.07	0.34	2.97	0.65	-3.50	31.48
Filter-3	2550	0.08	0.37	3.02	0.61	-3.54	34.08

Scatter plots for INSAT-3D visible channel count Vs MODIS radiance (W/m^2/µm/sr)

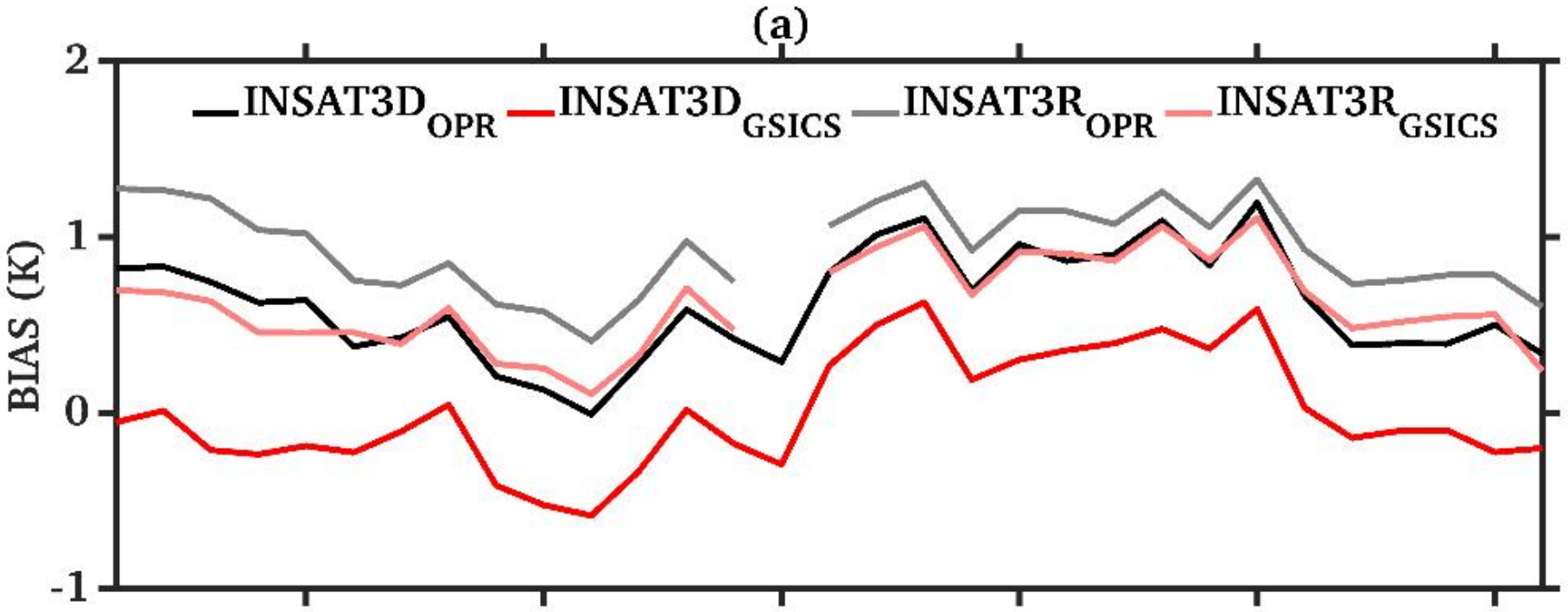


Scatter plots for INSAT-3D SWIR channel count Vs MODIS radiance (W/m^2/µm/sr)

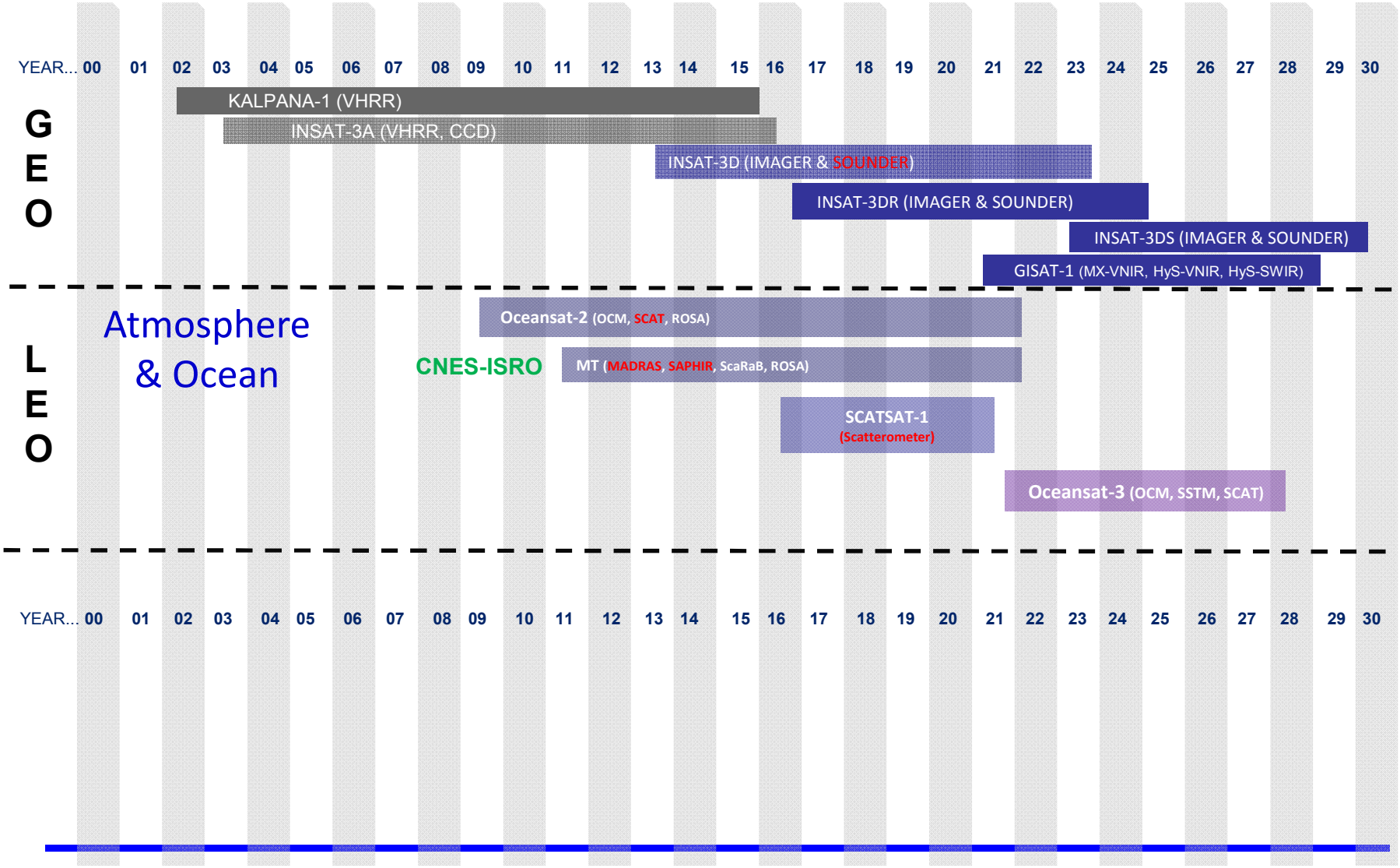


Filter-0: Gross check temporal collocation (30 mins)
Filter-1: above filter-0, additional checks on various viewing and zenith angles
Filter-2: above filter-0,1 additional filter of sun glint probability and land/ocean mask is applied
Filter-3: above filter0,1,2 additional filter of percentage standard deviation check is applied to remove inhomogeneous scenes.

Bias estimate of simulated BT using WRF 09 hr forecast from 1800 GMT with respect to INSAT-3D BT



ISRO's Instruments Updates & Planned launches



Introduce/Confirm the Agency's Personnel supporting GSICS

- *Points of contacts/meeting participants (update in website pending):*
  - *EP: Dr Raj Kumar, Deputy Director, EPSA/SAC (rksharma@sac.isro.gov.in)*
  - *GDWG: Dr Nitant Dube, Group Head, MRG/SAC (nitant@sac.isro.gov.in)*
  - *GRWG: Dr Pradeep Kumar Thapliyal (pkthapliyal@sac.isro.gov.in)*

    Dr Munn Vinayak Shukla (munnvinayak@sac.isro.gov.in)
  - *GSICS Point of Contact for Operational Matters: Mr D K Patel (dk@sac.isro.gov.in)*

Thank you for your attention

WMO GSICS Portal

http://gsics.wmo.int

GSICS Coordination Centre

http://www.star.nesdis.noaa.gov/smcd/GCC/index.php

GSICS Product Catalog

https://www.star.nesdis.noaa.gov/smcd/GCC/ProductCatalog.php

GSICS Wiki

http://gsics.atmos.umd.edu/wiki/Home