

25th International TOVS Study Conference (ITSC-25)

8th - 14th May 2025 Goa, India

Wednesday 7th May 2025

18:00 - 20:00 Registration

Thursday 8th May 2025

8:00 - 9:00 Registration

Opening session

9:00 - 9:30 oral presentations

ITWG co-chairs	TBC
NCMRWF representatives	TBC

Session 1 - Coordination of satellite systems, operations and end-user support

9:30 - 10:15 oral presentations (each 12 minutes + 3 minutes discussion)

Sreerekha Thonipparambil EUMETSAT	User preparation for EUMETSAT's next generation sounding missions on MTG-S and EPS-SG
Vinia Mattioli EUMETSAT	EUMETSAT Polar System - Second Generation: highlights on the passive microwave missions
Jordan Gerth NOAA	Risks of RFI with environmental satellite sensing based on spectrum proceedings and regulations

10:15 - 10:45 Health break

10:45 - 10:50 poster introductions with no visual aids (each 1 minute)

Francisco Bermudo CNES - Centre National d'Etudes Spatiales	IASI-NG Program: General Status Overview
Toshiyuki Kitajima Japan Meteorological Agency	Current Status and Future Plans on Direct Readout Activity in MSC/JMA
Heikki Pohjola WMO	The Direct Broadcast Network Benefits for United Nation's Early Warnings for All Initiative
Heikki Pohjola WMO	WMO Core and Recommended Satellite Data

10:50 - 11:35 oral presentations (each 12 minutes + 3 minutes discussion)

Heikki Pohjola WMO	WMO Gap Analysis for Space-based Component of the WMO Integrated Global Observing System (WIGOS) Using WMO OSCAR/Space Tools
Liam Gumley SSEC, University of Wisconsin-Madison	The WMO DBNet service for providing low latency sounder data to NWP centers: Recent progress and future plans
Simon Elliott EUMETSAT	Global satellite data exchange in the era of WIS 2.0

Session 2 - Impact studies

11:35 - 11:50 poster introductions with no visual aids (each 1 minute)

Christina Köpken-Watts DWD	Observation data impact studies in the global ICON/EnVar system of DWD
Sumit Kumar NCMRWF	NCMRWF operational NWP system: status and observation impact analysis

Hao Hu <i>CMA Earth System Modeling and Prediction Centre (CEMC)</i>	Impacts of microwave instruments onboard FengYun-3F on numerical weather prediction
Suryakanti Dutta <i>NCMRWF/MoES</i>	Assessment of NOAA-21 ATMS using NCMRWF Global Forecast System
Sujata Pattanayak <i>National Centre for Medium Range Weather Forecasting, MoES</i>	Impact of Microwave Sounder Data from Polar-orbiting Satellites in NCMRWF Global Forecast System
Ahreum Lee <i>KIAPS</i>	Assimilation of clear-sky radiances from GOES-16 and 18 in the KIM data assimilation system
Ruixia Liu <i>China Meteorological Administration</i>	Assimilation of Hyperspectral Infrared Atmospheric Sounder(HIRAS) Data of FengYun-3E and Assessment of Its Impact on Analyses and Forecasts
Reima Eresmaa <i>Finnish Meteorological Institute</i>	The impact of microwave sounder radiance assimilation in convective-scale limited-area NWP over the Nordic region and in the Arctic
Nahidul Samrat <i>Bureau of Meteorology</i>	Satellite Sounder Absence: Evaluating the Impact of Satellite Sounder Observation Across Diverse Geographic Regions
Fiona Smith <i>Bureau of Meteorology</i>	Satellite Observation Impacts in Australian NWP Models
11:50 - 12:00 Group photo	
12:00 - 13:30 Lunch break	
Session 3 - New microwave capabilities	
13:30 - 13:40 poster introductions with no visual aids (each 1 minute)	
Niels Bormann <i>ECMWF</i>	Evaluations and exploratory assimilation trials with data from the TROPICS constellation in the ECMWF system
Niels Bormann <i>ECMWF</i>	Forecast impact expected from EPS-Sterna's 325 GHz channels
Benjamin Ruston <i>UCAR/JCSDA</i>	JEDI Skylab Demonstration of Microwave Small Satellites
Brett Candy <i>UK Met Office</i>	An initial evaluation of the Sterna radiometer data using Met Office NWP fields
Stephanie Guedj <i>The Norwegian Meteorological Institute</i>	Early evaluation of the Arctic Weather Satellite (AWS) data assimilation in regional NWP systems
Vinia Mattioli <i>EUMETSAT</i>	EUMETSAT microwave sounder constellation: the EPS-Sterna Programme
David Duncan <i>ECMWF</i>	Preparations for EPS-SG microwave instruments at ECMWF
David Duncan <i>ECMWF</i>	Analysis of Radio Frequency Interference (RFI) from 6.9 to 89 GHz in an NWP system
13:40 - 14:55 oral presentations (each 12 minutes + 3 minutes discussion)	
Richard Delf <i>Weather Stream</i>	The Global Environment Monitoring System (GEMS): a constellation of passive microwave radiometers on a CubeSat platform
B R R Hari Prasad Kottu <i>National Centre for Medium Range Weather Forecasting</i>	Impact of Microsat-2B Radiance Data Assimilation in the NCMRWF Global Forecast System
Mitch Goldberg <i>The City College of New York</i>	The Limb Adjustment of the TROPICS Microwave Sounder Constellation
Hélène Dumas <i>Météo-France</i>	Preliminary assessment of the Arctic Weather Satellite microwave sounder with the ARPEGE global model
David Duncan <i>ECMWF</i>	Evaluation of the Arctic Weather Satellite in the ECMWF system
Session 4 - New infrared capabilities	
14:55 - 15:05 poster introductions with no visual aids (each 1 minute)	
Chris Burrows <i>ECMWF</i>	Data quality assessment and assimilation of HIRAS-2 on FY-3E
Chris Burrows <i>ECMWF</i>	Preparation for the next generation hyperspectral infrared sounders MTG-IRS and IASI-NG at ECMWF
Thomas Carrel-Billiard <i>Météo-France</i>	Preparing Météo-France's Numerical Weather Prediction Models for the Assimilation of anticipated MTG-IRS sounder data
Stefano Migliorini <i>Met Office</i>	Plans for assimilation of MTG-IRS observations at the Met Office
Yoshifumi Ota <i>Meteorological Research Institute (MRI), Japan Meteorological Agency (JMA)</i>	Quality assessment of radiance data obtained by GIIRS onboard FY-4B satellite
Ruoying Yin <i>CEMC</i>	The assimilation of FY-4B GIIRS radiance data in CMA-GFS 4Dvar system

William Smith <i>University of Wisconsin - Madison</i>	Fusion of Polar and Geostationary Sounding Data
Erica McGrath-Spangler <i>NASA GMAO/GESTAR II</i>	Evaluation of GEO Sounder Impact for Numerical Weather Prediction
Tomoya Urata <i>Japan Meteorological Agency</i>	Preliminary studies for the assimilation of Himawari-10/GHMS in the JMA's NWP systems

15:05 - 16:05 Poster viewing (Sessions 1, 2, 3, and 4) and Coffee Break

16:05 - 17:05 oral presentations (each 12 minutes + 3 minutes discussion)

Senyi Kong <i>Zhejiang University</i>	All-sky assimilation of high temporal GIIRS radiance in CMA-GFS using 4D-Var
Naoto Kusano <i>JMA, ECMWF</i>	Assimilation of GIIRS on-board FY-4B in the ECMWF IFS
Young-Jun Cho <i>Numerical Modeling Center, Korea Meteorological Administration</i>	Forecast Impact of Simulated GeoHIS based on KIM-OSSE
Andrew Heidinger <i>NOAA NESDIS GEO</i>	NOAA's GXS Sounder

17:05 - 17:35 Introductions to the ITWG Working Groups (each 5 minutes)

- Advanced sounders
- Climate
- International issues and future systems
- Numerical weather prediction
- Products and software
- Radiative transfer and surface properties

18:00 - Ice-breaker event

Friday 9th May 2025

Session 5 - Radiative transfer studies

8:45 - 10:00 oral presentations (each 12 minutes + 3 minutes discussion)

Benjamin Johnson <i>UCAR/JCSDA</i>	The JCSDA Community Radiative Transfer Model
Xu Liu <i>Science Directorate, NASA Langley Research Center</i>	Recent Progress on PCRTM and its Applications in MW, IR, and Solar Spectral Regions
Jun Yang <i>CMA Earth System Modeling and Prediction Centre</i>	Progress in Advanced Radiative Transfer Modeling System (ARMS)
Jean-Marie Lalonde <i>CNRM, Météo France, CNRS</i>	Enhancing Atmospheric Transmittance Estimation for TOVs through Advanced Statistical Approaches
Tiziano Maestri <i>University of Bologna, Physics and Astronomy Department "Augusto Righi"</i>	On Fast Computations of Upwelling Far- and Mid-Infrared Radiances for All-Sky analysis

10:00 - 10:15 poster introductions with no visual aids (each 1 minute)

Brett Candy <i>UK Met Office</i>	Development of new fast radiative transfer coefficients for microwave sensors
Changjiao Dong <i>School of Atmospheric Physics, Nanjing University of Information Science and Technology</i>	Parameterization of Zeeman-Splitting Effect for Microwave Upper Atmosphere Sounding Channels in Advanced Radiative Transfer Modeling System (ARMS)
Vito Galligani <i>Centro de Investigaciones del Mar y la Atmósfera (CIMA)</i>	Exploring how uncertainties in NWP model microphysics are carried through to microwave radiance space / Exploring their relative importance compared with radiative transfer inconsistencies
Yang Han <i>CMA</i>	Comparison of Dobson and Mironov Soil Dielectric Constant Models in Advanced Radiative Transfer Modeling System (ARMS)

Christina Köpken-Watts DWD	Extending the fast forward operator MFASIS-NN for solar channels to NIR and water vapour sensitive channels, and aerosol affected profiles
Cristina Lupu ECMWF	Evaluation of RTTOV-14 in the ECMWF NWP system
Yi-Ning Shi China Meteorological Administration	Improvements of the microwave gaseous absorption scheme based on statistical regression and its performance in observation operators for satellite and ground-based microwave radiometers
Emma Turner ECMWF	A new and extended diverse 40,000 atmospheric profile dataset from the CAMS atmospheric composition forecasting system
Viviana Volonnino CNRM, Université de Toulouse, Météo-France, CNRS	Impact of Spectroscopy on IASI and FORUM Clear-Sky Simulations using RTTOV
Ziqiang Zhu Chinese Academy of Meteorological Sciences	An updated Vector Discrete Ordinate Radiative Transfer (VDISORT) model developed for the Advanced Radiative transfer Modeling System (ARMS)
10:15 - 10:45 Health break	
Session 6 - Generation of products	
10:45 - 11:45 oral presentations (each 12 minutes + 3 minutes discussion)	
Bryan Karpowicz UMBC/GESTAR II/NASA	Assimilation of Reconstructed Radiances from IASI and CrIS Principal Component Scores into the GEOS-ADAS
Joe Taylor SSEC, University of Wisconsin-Madison	The Cross-track Infrared Sounder (CrIS) NASA PCA RED Product
Jonas Wilzewski EUMETSAT	Hyperspectral infrared L2 product development at EUMETSAT
Hyun-sung Jang AMA / NASA LaRC	Planetary Boundary Layer Height Estimation: Methodology and Case Study using NAST-I FIREX-AQ Field Campaign Data
11:45 - 12:00 poster introductions with no visual aids (each 1 minute)	
Svetlana Akishina St. Petersburg State University	Methodology for determination of the ozone vertical distribution elements from satellite spectral measurements of IR thermal radiation
Anna Booton Met Office	Update on the NWP SAF satellite data processing packages: AAPP, IRSPP and MWIPP
Xavier Calbet AEMET	Retrievals of Water vapor inhomogeneities within the field of view
Liam Gumley SSEC, University of Wisconsin-Madison	Community Satellite Processing Package (CSPP) for Low Earth Orbit (LEO) Satellites: Recent Updates and Future Plans
Bozena Lapeta IMGW-PIB	Quality of the ATOVS-derived precipitation amount over Poland during the flood event in September 2024
Xiaoqing Li National Satellite Meteorological Center, China Meteorological Administration	A precipitation retrieval algorithm for FY-3E microwave sounders
Minghua Liu Nanjing University of Information Science and Technology	All-Sky Temperature and Humidity Retrieval from the MWRI-RM Onboard the FY-3G Satellite
Simon Warnach HamTec Consulting Ltd.	Level 2 validation and monitoring activities at EUMETSAT for future hyperspectral infrared mission
Daniel Zhou NASA LaRC	Thermodynamic Variation in the Planetary Boundary Layer from NAST-I Measurements During the WH2yMSIE Field Campaign
Lihang Zhou NOAA	NOAA LEO Products Updates for ITWG
12:00 - 13:30 Lunch break	
Session 7 - Exploitation of artificial intelligence and machine learning	
13:30 - 14:45 oral presentations (each 12 minutes + 3 minutes discussion)	
Chris Burrows ECMWF	Skilful weather predictions from observations alone: general concept
Niels Bormann ECMWF	Skilful weather predictions from observations alone: the role of passive sounders
Wei Han CMA Earth System Modeling and Prediction Centre (CEMC)	Assimilation of all satellite observations using AI: some primary results
Alice Abramowicz KNMI	Prototype for bias-correction of microwave radiance observations using machine learning methods
Alexander Polyakov Saint-Petersburg University	Neural network approach to determination of total and tropospheric ozone columns from spectral measurements of outgoing thermal radiation

14:45 - 14:55 poster introductions with no visual aids (each 1 minute)

Niels Bormann ECMWF	Sea ice surface emissivity modelling using data assimilation and machine learning
Azadeh Gholoubi Khonacha NOAA/NWS/NCEP/EMC	Using Machine learning for SMAP Soil moisture retrieval
Swapn Mallick Swedish Meteorological and Hydrological Institute (SMHI)	Deep Learning Approach to Estimating Uncertainty in the Copernicus Arctic Regional Second Generation Reanalysis: A Prototype
Niobe Peinado-Galan AEMET	Analysis of severe convection situations in Africa and Europe with the new NWCSAF sSHAI product derived from IASI as a proxy for MTG-IRS data
Likun Wang University of Maryland	Estimating Tropospheric Methane from Cross-track Infrared Sounder (CrIS) Spectra using a Machine Learning Method
Yunfan Yang Institute of atmospheric physics	Reconstruction of 3D Radar Reflectivity using Passive Microwave Imager Radiance

Session 8 - Climate studies

14:55 - 15:05 poster introductions with no visual aids (each 1 minute)

Younousse Biaye Université Gaston Berger de Saint-Louis	Study of the evolution of the Sahelian climate based on satellite observations and ATOVS data
Caroline Bresciani University of Santa Maria (UFSM)	Increase in Aerosol Concentration in the Upper Troposphere over the Amazon Region: A Case Study Using Observational Data
Katyelle Ferreira da Silva Bezerra Universidade Federal de Alagoas	Understanding fire behavior in the legal Amazon biome: a climatological and remote sensing approach
Helber Gomes Institute of Atmospheric Sciences/Federal University of Alagoas (ICAT/UFAL)	Monitoring the impact of droughts and heatwaves on wildfire activities in the Brazilian Cerrado biome using the VIIRS satellite
Nathalie Selbach Deutscher Wetterdienst	25 Years of a Sustained Generation of Satellite-Based Climate Data Records by EUMETSAT CM SAF
Bomin Sun IMSG at NOAA/NESDIS/STAR	Utilization of GRUAN-GSICS-GNSS RO ("3-G") to Cross-Validate Atmospheric Sounding: Significance in Climate Change Monitoring
David Tobin CIMSS/SSEC	22 Years of Hyperspectral Infrared Satellite Observations: Creating Climate Data Records and Examining Trends in Top-of-atmosphere Spectral Radiances, Integrated Nadir Longwave Radiance (INLR), and Outgoing Longwave Radiation (OLR)
Jose Luis Villaescusa Nadal EUMETSAT	Retrieving Outgoing Longwave Radiation from IASI. A 15 year analysis.

15:05 - 16:05 Poster viewing (Sessions 5, 6, 7, and 8) and Coffee Break

16:05 - 17:35 oral presentations (each 12 minutes + 3 minutes discussion)

Shibin Balakrishnan India Meteorological Department	Embarking the journey of Fundamental Climate Data Records (FCDR) of Indian Meteorological Satellites.
Bill Bell ECMWF	The assimilation of radiances in the ECMWF ERA6 global reanalysis.
Timo Hanschmann EUMETSAT	Microwave temperature sounder fundamental climate data records for climate applications
Graeme Martin UW-Madison / SSEC	The NASA CrIS Level 1B Version 4 Software and Product
Guido Masiello University of Basilicata	Comprehensive Infrared forward-inverse analysis of the Ozone hole with IASI
Likun Wang University of Maryland	New Stratospheric Temperature Climate Data Records by Merging SSU with AIRS

Saturday 10th May 2025

9:00 - 10:15 Working groups session 1

Advanced sounders
Climate
International issues and future systems

10:15 - 10:45 Health break

10:45 - 12:00 Working groups session 1 continued

12:00 - 13:30 Lunch break

13:30 - 14:45 Working groups session 2

Numerical weather prediction

Products and software

Radiative transfer and surface properties

14:45 - 15:15 Health break

15:15 - 16:30 Working groups session 2 continued

16:30 - 16:45 Health break

16:45 - 18:00 Technical subgroups meetings

Fast RTMs

RFI

Sunday 11th May 2025

Local excursions and socializing

Monday 12th May 2025

Session 9 - Advances in assimilation methods

8:45 - 10:15 oral presentations (each 12 minutes + 3 minutes discussion)

Hui Christophersen U.S. Naval Research Laboratory Marine Meteorology Division	Adaptive Estimation of ATMS Observation Uncertainty to Improve Atmospheric Prediction
Ethel Villeneuve ECMWF	Expanding the use of geostationary satellite data at ECMWF
William Campbell U.S. Naval Research Laboratory	Graph Theoretic Observation Thinning for Satellite Radiances
Erin Jones UMD ESSIC @ NASA GMAO	Developing a SWIR/MWIR-based Cloud Detection for CrIS in CADS
Qifeng Lu CMA / CEMC	Enhancing Numerical Weather Prediction Accuracy through EN4DVAR and Novel Satellite Data Assimilation
Young-Chan Noh Korea Polar Research Institute	Vertical localization for the microwave humidity sounder in the ensemble Kalman filter

10:15 - 10:45 Health break

10:45 - 11:15 oral presentations (each 12 minutes + 3 minutes discussion)

Xi Shuang Center for Earth System Modelling and Prediction of China Meteorological Administration	Effect of bias correction sample selection on FY-3D satellite microwave humidity data assimilation in CMA_GFS model
Thomas Buey Meteo France	Introducing horizontal correlations of satellite observation errors into the data assimilation system of the AROME model

11:15 - 11:30 poster introductions with no visual aids (each 1 minute)

Olivier Audouin Meteo France	Assimilating FCI data within the Météo-France models
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Olivier Audouin Meteo France	Assimilation of CrIS sounder data in FSR format in the ARPEGE model
Maria Eugenia Dillon Consejo Nacional de Investigaciones Cientificas y Técnicas; Servicio Meteorológico Nacional	Usage of L2 soundings in the data assimilation and numerical weather prediction system at the Argentinian NMS: present implementation and experiments.
Na-Mi Lee Korea Meteorological Administration	Diagnostics of CrIS Preprocessing System in Korean Integrated Model (KIM)
Peter Levens Met Office	NWP-based assessment of MTG-I FCI
Cristina Lupu ECMWF	Assimilation of data from the FCI onboard MTG-I1 into the ECMWF system
Hiroyuki Shimizu Japan Meteorological Agency	Development for better utilization of AMSR3 humidity sounding channels in JMA's global NWP system
Liam Steele ECMWF	Assessing the thinning scale for humidity sounding observations at ECMWF
Sina Voshtani Environment and Climate Change Canada	Evaluating the role of anchor observations for radiance observation bias correction
Joel Bedard ECCC	Revisiting spatial thinning approaches for satellite data assimilation
Laurence Coursol Environnement et Changement climatique Canada (ECCC)	An automated DFS satellite channel selection method for data assimilation: sensitivity to data volume and covariance matrices using CrIS observations

Session 10 - All-sky assimilation

11:30 - 12:15 oral presentations (each 12 minutes + 3 minutes discussion)

Mary Borderies Météo-France/cnrm	Perturbations of all-sky microwave radiances forward operator specifications within the Ensemble of Data Assimilation system of Météo-France
Christina Köpken-Watts DWD	Operational all-sky assimilation of geostationary water vapour channels in a regional ensemble Kalman filter NWP system
Izumi Okabe MRI / Japan Meteorological Agency	Global all-sky radiance assimilation for geostationary satellite imagers

12:15 - 13:45 Lunch break

13:45 - 14:15 oral presentations (each 12 minutes + 3 minutes discussion)

Kozo Okamoto JMA/MRI	Global all-sky radiance assimilation for IASI
Liam Steele ECMWF	Enhancing the exploitation of all-sky microwave sensors at ECMWF using inter-channel error correlations

14:15 - 14:20 poster introductions with no visual aids (each 1 minute)

Antoine Chemouny CNRM/CNES	Assimilation of IASI all-sky radiances for Numerical Weather Prediction
Sylvain Heilliette Environment Canada	Recent updates and progress towards increased All-Sky assimilation at Environment Canada
Christina Köpken-Watts DWD	ICON and IFS model cloud evaluation using visible imagers on geostationary satellites

Session 11 - Calibration of sensors

14:20 - 14:30 poster introductions with no visual aids (each 1 minute)

Yihong Bai National Satellite Meteorological Center, China Meteorological Administration	Spatial Resolution Enhancement of Microwave Radiation Imager (MWRI) Data
Harshitha Bhat CLC Space GmbH	EUMETSAT's IRS L2 Cal/Val and monitoring activities
Guillaume Deschamps EUMETSAT	Spectral Response Function Retrieval of spaceborne Fourier Transform Spectrometers – Application to Metop IASI
Hareef Baba Shaeb Kannemadugu National remote sensing centre, Indian Space research Organisation	Radiosonde Network for NICES (RANN): data products, satellite data validation and applications in air pollution research and atmospheric dynamics
Vinia Mattioli EUMETSAT	EUMETSAT Polar System - Second Generation: pre-launch characterization of the microwave sounder (MWS) onboard Metop-SGA1
Joe Taylor SSEC, University of Wisconsin-Madison	High Spatial and Spectral Resolution Infrared Observations from the Scanning High-resolution Interferometer Sounder (S-HIS): Recent Datasets and Next-Gen Sensor Development
Hu Yang University of Maryland	Dynamic Earth Contamination Correction for Microwave Sounding Instruments On-Orbit Calibrations

14:30 - 15:15 oral presentations (each 12 minutes + 3 minutes discussion)

Quentin Cebe CNES	IASI-NG : Overview of L1 processing and performances
Lu Lee National Satellite Meteorological Center, CMA	FY-4B/GIIRS on-orbit status and post-launch calibration activities
Chengli Qi National Satellite Meteorological Center, China Meteorological Administration	FY-3 HIRAS on orbit calibration performance and updates

15:15 - 16:15 Poster viewing (Sessions 9, 10, and 11) and Coffee Break

16:15 - 16:45 oral presentations (each 12 minutes + 3 minutes discussion)

Fuzhong Weng CMA Earth System Modeling and Prediction Centre	An energy-conservation system developed for calibrating satellite microwave instruments
Hu Yang University of Maryland	Noise Characterization and Mitigation for Next Generation Space-borne Microwave Sounding Instruments

Session 12 - Space agency reports

16:45 - 17:45 oral presentations (each 12 minutes + 3 minutes discussion)

Bojan Bojkov EUMETSAT	Overview of the EUMETSAT operated missions and their applications
Kozo Okamoto JMA/MRI	Status report of space agency: JMA and JAXA
Pradeep Thapliyal Space Applications Centre (ISRO)	ISRO Agency Report: Present and future satellite instruments in support of Met-Ocean applications
Lihang Zhou NOAA	An Update of NOAA Satellite Missions for ITWG

19:00 - Banquet dinner

Tuesday 13th May 2025

Session 13 - NWP centre status reports

8:45 - 9:45 one-slide introductions to poster presentations (each 3 minutes)

Olivier Audouin Meteo France	Ongoing developments on satellite radiance assimilation at Météo-France
Alain Beaulne Environment and Climate Change Canada	Latest upgrades and developments in the use of satellite radiances at ECCO
Hui Christophersen U.S. Naval Research Laboratory Marine Meteorology Division	Recent Earth observation developments at the U.S. Naval Research Laboratory
Hyoung-Wook Chun KMA	Satellite Radiance Data Assimilation at Korea Meteorological Administration
Andrew Collard NOAA/NCEP/EMC	Progress and plans for the use of radiance data in the NCEP global and regional data assimilation systems
Mohamed Dahoui ECMWF	ECMWF NWP changes
Christina Köpken-Watts DWD	Overview of recent developments in satellite radiance data assimilation at DWD
Qifeng Lu CMA / CEMC	Status of Satellite Data Assimilation at CMA NWP system
Isabel Monteiro KNMI	Present and future use of satellite atmospheric sounding data in United Weather Centres West
Hidehiko Murata Japan Meteorological Agency	Recent upgrades and progresses of satellite radiance data assimilation at JMA
Stuart Newman Met Office	Satellite radiance assimilation at the Met Office
John P George NCMRWF, Ministry of Earth Sciences (Government of India)	NCMRWF NWP status since ITSC-24
Fiona Smith Bureau of Meteorology	Updates to the use of Radiance Observations in Bureau of Meteorology Operational Models

Yanqiu Zhu
NASA/GSFC/GMAO

Status and ongoing developments of satellite data assimilation in NASA GMAO's GEOS

Session 14 - Future microwave technologies

9:45 - 10:30 oral presentations (each 12 minutes + 3 minutes discussion)

Kristen Bathmann Spire Global	Deep Learning-Based Retrievals from Spire's Hyperspectral Microwave Sounder
Bill Blackwell MIT Lincoln Laboratory	Recent Advances in Microwave Sounding: Smallsat Constellations, Beam-steering Arrays, and Cognitive Sensing
Ke Chen Huazhong University of Science and Technology	Assessment of the Potential Impact of Microwave Sounders on Polar-orbiting and Geostationary Satellites on Numerical Weather Prediction through OSSEs with CMA NWP model

10:30 - 11:00 Health break

11:00 - 12:15 oral presentations (each 12 minutes + 3 minutes discussion)

Antonia Gambacorta NASA Goddard Space Flight Center	The Advanced Ultra-high Resolution Optical RAdiometer (AURORA) Pathfinder
Manju Henry Spire Global UK Ltd.	Development and pre-launch characterisation of a Hyperspectral Microwave sounder In Orbit Demonstrator
Ryan Honeyager The Tomorrow Companies, Inc.	The Tomorrow Microwave Sounder program: an assessment of the observations and observing system impacts
Satya Kalluri NOAA	Experiments in Support of Next Generation Low Earth Orbit Microwave Sounder Formulation at NOAA
Zaizhong Ma UMD/CISESS	Simulation and Evaluation of NOAA Next-gen Microwave Satellite Observation System with the ECMWF EDA method

12:15 - 12:20 poster introductions with no visual aids (each 1 minute)

Mary Borderies Météo-France/cnrm	Impact of WIVERN 94GHz brightness temperature observations on global NWP model forecasts using an OSSE framework
Niels Bormann ECMWF	Developing the use of hyperspectral MW observations for global NWP in an Ensemble of Data Assimilations (EDA)
Richard Delf Weather Stream	The Global Environment Monitoring System (GEMS) suite of novel passive microwave instrumentation

12:20 - 13:50 Lunch break

Session 15 - Impacts in Indian regional applications

13:50 - 13:55 poster introductions with no visual aids (each 1 minute)

Rishi Kumar Gangwar Space Applications Centre (Indian Space Research Organisation)	Atmospheric Temperature and Moisture Profiles from Recently Launched INSAT-3DS Sounder
Ashim Kumar Mitra India Meteorological Department	Analysis of diurnal nature of spatial variability of Land Surface Temperature in Delhi NCR using Sentinel 3 and INSAT-3D/R satellite data
Devanil Choudhury National Centre for Medium Range Weather Forecasting, Ministry of Earth Sciences, India	Assimilating NOAA-21 Data for Enhanced Forecasting of Deep Depressions in India
Ashish Routray NCMRWF, MoES	Assimilation of Microwave Imager Radiance Data in NCUM-R-4DVAR System and Its Impact on Simulation of TCs over Bay of Bengal

13:55 - 14:55 oral presentations (each 12 minutes + 3 minutes discussion)

Indira Rani S NCMRWF, Ministry of Earth Sciences	Radiance assimilation over the extra-tropics and polar regions: Impact on the simulation of Indian Monsoon
Srinivas Desamsetti National Centre for Medium Range Weather Forecasting (NCMRWF), MoES	DBNet data assimilation during cyclone events- Advantage of timeliness
Sujata Pattanayak National Centre for Medium Range Weather Forecasting, MoES	Seasonal Impact of INSAT-3DR Satellite Radiance in NCMRWF Global Forecast System
Prashant Kumar Space Applications Centre, ISRO	All-sky radiance assimilation of INSAT-3DS Sounder Radiance in the WRF Model

Session 16 - Use of Surface-Sensitive Data and Session 17 - Regional Studies: poster introductions

14:55 - 15:10 poster introductions with no visual aids (each 1 minute)

Hyeyoung Kim Korea Institute of Atmospheric Prediction System	Study on extending the use of satellite microwave sounder data over the land
Mahdiyeh Mousavi DWD	Assimilation of IASI Observations Over Land: Impact of Improved Surface Emissivity and Skin Temperature
Zied Sassi CNRM, Météo-France & CNRS	Assimilation of Land Surface Temperature retrieved from IASI infrared sensor in the surface analysis of ARPEGE NWP global model
Erik Dedding KNMI	Towards a full exploitation of satellite radiance information using transformed retrievals in HARMONIE-AROME 4D-Var
Reima Eresmaa Finnish Meteorological Institute	Variational Bias Correction of Polar-Orbiting Satellite Radiances in Convective-scale Data Assimilation
Nahidul Samrat Bureau of Meteorology	Himawari Radiance Integration in the Bureau Limited-Area Assimilation System: Impact of Assimilation, Error Diagnostics and Treatment
Jana Sanchez-Arriola AEMET	Characterisation and Handling of Errors of Satellite Radiances for km-scale Data Assimilation over Three Operational Domains
Ruiqi Tan College of Atmospheric Sciences, Lanzhou University	Evaluating the Impact of East Asian Dust Aerosols on Infrared Radiation Simulation and Assimilation: Insights from FY4B GIIRS
Xiaoyan Zhang SAIC @ NOAA/NCEP/EMC	Optimizing Satellite Radiance Data Assimilation in NOAA's Regional System: Transition to RRFsv2 with JEDI and Cloud-Affected Radiance
Zeping Zhang Chinese Academy of Meteorological Sciences	Improved Typhoon Forecasting Using 3D Winds Retrieved From Geostationary Interferometric Infrared Sounder in CMA-GFS
Dirceu Herdies CPTEC/INPE	Use of Radar and Lightning Data Assimilation in Short-term Forecast over Brazil

Session 16 - The use of surface-sensitive data

15:10 - 15:25 oral presentations (each 12 minutes + 3 minutes discussion)

Swapn Mallick Swedish Meteorological and Hydrological Institute (SMHI)	Significance and Impact of High-Resolution Variational Assimilation of Satellite Microwave Radiances over Difference Surfaces
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15:25 - 16:25 Poster viewing (Sessions 13, 14, 15, 16, and 17) and Coffee Break

16:25 - 17:10 oral presentations (each 12 minutes + 3 minutes discussion)

Máté Mile Norwegian Meteorological Institute	An Observing System Simulation Experiment for satellite observations: Uncertainty estimation of emissivity retrieval over sea-ice and land
Zheng Qi Wang McGill University / Environment and Climate Change Canada	Simultaneous Estimation of Atmospheric Temperature, Surface Emissivity and Skin Temperature by Assimilating Surface-Sensitive Microwave Observations Over Land in a 1D-EnVar System
Hongyi Xiao CMA Earth System Modeling and Prediction Center	Toward the all-surface assimilation of surface-sensitive satellite data from microwave temperature- and humidity-sounding channels in CMA-GFS 4D-Var system

Session 17 - Regional studies

17:10 - 17:55 oral presentations (each 12 minutes + 3 minutes discussion)

Tobiasz Górecki Institute of Meteorology and Water Management – National Research Institute	Taking Advantage of Vertical Temperature and Dew Point Profiles Derived from HEAP and MIRS Software: Validation Products over Poland and Case Study Analysis
Stephanie Guedj The Norwegian Meteorological Institute	Optimizing the assimilation of radiances in the operational AROME-Arctic NWP system
Zhiquan (Jake) Liu NSF National Center for Atmospheric Research	Joint all-sky ABI radiance and radar data assimilation with MPAS-JEDI's hybrid-3D/4D-EnVar at convection-permitting scale

19:00 - Dinner outside

Wednesday 14th May 2025

Closing session

9:00 - 10:20 Recaps from the WG meetings (each 20 minutes)

Advanced sounders

Climate

International issues and future systems

Numerical weather prediction

10:20 - 10:50 Health break

10:50 - 12:10 Recaps from the WG meetings (each 20 minutes)

Products and software

Radiative transfer and surface properties

Fast RTMs technical subgroup

RFI technical subgroup

12:10 - 12:20 Closing ceremonies