

## 25th International TOVS Study Conference (ITSC-25)

8th - 14th May 2025 at Resort Rio, Goa, India

### Wednesday 7th May 2025

16:00 - 18:00 Registration

17:00 - 20:00 Dinner at Pickled Mango restaurant

### Thursday 8th May 2025

7:00 - 8:30 Breakfast at Pickled Mango or Sweet Kaju (same for all days)

8:00 - 9:00 Registration

9:00 - 9:30 Opening session

Reima Eresmaa and Fiona Smith <i>ITWG co-chairs</i>	Opening of ITSC-25
V. S. Prasad <i>Head NCMRWF</i>	Welcome words from NCMRWF
Reima Eresmaa and Fiona Smith <i>ITWG co-chairs</i>	Practical information

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

Session Chairs: Reima Eresmaa and Fiona Smith

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

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

10:15 - 10:45 Health break

10:45 - 11:30 oral presentations (each 12 minutes + 3 minutes discussion)

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

11:30 - 11:35 poster introductions with no visual aids (each 1 minute)

1p.01	Heikki Pohjola <i>WMO</i>	WMO Core and Recommended Satellite Data
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#### Session 2 - Impact studies

Session Chairs: Kozo Okamoto and Indira Rani

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

2p.02	Sumit Kumar <i>NCMRWF</i>	NCMRWF operational NWP system: status and observation impact analysis
2p.04	Suryakanti Dutta <i>NCMRWF/MoES</i>	Assessment of NOAA-21 ATMS using NCMRWF Global Forecast System
2p.05	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
2p.06	Ahreum Lee <i>UMBC, GMAO NASA/GSFC, KIAPS*</i>	Assimilation of clear-sky radiances from GOES-16 and 18 in the KIM data assimilation system
2p.07	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

2p.08	Nahidul Samrat <i>Bureau of Meteorology</i>	Satellite Sounder Absence: Evaluating the Impact of Satellite Sounder Observation Across Diverse Geographic Regions
2p.09	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 in pre-function area		
<b>Session 3 - New microwave capabilities</b>		
Session Chairs: Mary Borderies and Dorothee Coppens		
13:30 - 13:40 poster introductions with no visual aids (each 1 minute)		
3p.01	Niels Bormann <i>ECMWF</i>	Evaluations and exploratory assimilation trials with data from the TROPICS constellation in the ECMWF system
3p.02	Niels Bormann <i>ECMWF</i>	Forecast impact expected from EPS-Sterna's 325 GHz channels
3p.03	Benjamin Ruston <i>UCAR/JCSDA</i>	JEDI Skylab use for Observation Evaluation
3p.04	Brett Candy <i>UK Met Office</i>	An initial evaluation of the Sterna radiometer data using Met Office NWP fields
3p.05	Stephanie Guedj <i>The Norwegian Meteorological Institute</i>	Early evaluation of the Arctic Weather Satellite (AWS) data assimilation in regional NWP systems
3p.06	Vinia Mattioli <i>EUMETSAT</i>	EUMETSAT microwave sounder constellation: the EPS-Sterna Programme
3p.07	David Duncan <i>ECMWF</i>	Preparations for EPS-SG microwave instruments at ECMWF
3p.08	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)		
3.01	Allen Huang <i>University of Wisconsin Madison (on behalf of Richard Delf)</i>	The Global Environment Monitoring System (GEMS): a constellation of passive microwave radiometers on a CubeSat platform
3.02	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
3.03	Hélène Dumas <i>Météo-France</i>	Preliminary assessment of the Arctic Weather Satellite microwave sounder with the ARPEGE global model
3.04	David Duncan <i>ECMWF</i>	Evaluation of the Arctic Weather Satellite in the ECMWF system
3.05	Mitch Goldberg <i>The City College of New York</i>	The Limb Adjustment of the TROPICS Microwave Sounder Constellation
<b>Session 4 - New infrared capabilities</b>		
Session Chairs: Dave Tobin and Ethel Villeneuve		
14:55 - 15:05 poster introductions with no visual aids (each 1 minute)		
4p.01	Chris Burrows <i>ECMWF</i>	Data quality assessment and assimilation of HIRAS-2 on FY-3E
4p.02	Chris Burrows <i>ECMWF</i>	Preparation for the next generation hyperspectral infrared sounders MTG-IRS and IASI-NG at ECMWF
4p.03	Olivier Audouin <i>Météo-France (on behalf of Thomas Carrel-Billiard)</i>	Preparing Météo-France's Numerical Weather Prediction Models for the Assimilation of anticipated MTG-IRS sounder data
4p.04	Stefano Migliorini <i>Met Office</i>	Plans for assimilation of MTG-IRS observations at the Met Office
4p.05	Tomoya Urata <i>Japan Meteorological Agency</i>	Preliminary studies for the assimilation of Himawari-10/GHMS in the JMA's NWP systems
4p.06	Ahreum Lee <i>UMBC, GMAO NASA/GSFC (on behalf of Erica McGrath-Spangler)</i>	Evaluation of GEO Sounder Impact for Numerical Weather Prediction
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)		
4.01	Naoto Kusano <i>JMA, ECMWF</i>	Assimilation of GIIRS on-board FY-4B in the ECMWF IFS

4.02	Young-Jun Cho <i>Numerical Modeling Center, Korea Meteorological Administration</i>	Forecast Impact of Simulated GeoHIS based on KIM-OSSE
4.03	Andrew Heidinger (recorded presentation) <i>NOAA NESDIS GEO</i>	NOAA's GXS Sounder
4.04	John Van Naarden <i>L3Harris</i>	Himawari-10 Sounder Overview and Update
17:05 - 17:35 Introductions to the ITWG Working Groups (each 5 minutes)		
	Advanced sounders	
	Products and software	
	International issues and future systems	
	Numerical weather prediction	
	Climate	
	Radiative transfer and surface properties	
18:00 - Ice-breaker event followed by dinner on the Rio Pool Lawn		
Friday 9th May 2025		
Session 5 - Radiative transfer studies		
Session Chairs: Vito Galligani and Ben Johnson		
8:45 - 10:00 oral presentations (each 12 minutes + 3 minutes discussion)		
5.01	Benjamin Johnson <i>UCAR/JCSDA</i>	The JCSDA Community Radiative Transfer Model
5.02	Fuzhong Weng <i>CMA Earth System Modeling and Prediction Centre (on behalf of Jun Yang)</i>	Progress in Advanced Radiative Transfer Modeling System (ARMS)
5.03	Jean-Marie Lalande <i>CNRM, Meteo France, CNRS</i>	Enhancing Atmospheric Transmittance Estimation for TOVs through Advanced Statistical Approaches
5.04	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
5.05	Xu Liu (recorded presentation) <i>Science Directorate, NASA Langley Research Center</i>	Recent Progress on PCRTM and its Applications in MW, IR, and Solar Spectral Regions
10:00 - 10:15 poster introductions with no visual aids (each 1 minute)		
5p.01	Brett Candy <i>UK Met Office</i>	Development of new fast radiative transfer coefficients for microwave sensors
5p.02	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
5p.03	Christina Köpken-Watts <i>DWD</i>	Extending the fast forward operator MFASIS-NN for solar channels to NIR and water vapour sensitive channels, and aerosol affected profiles
5p.04	Cristina Lupu <i>ECMWF</i>	Evaluation of RTTOV-14 in the ECMWF NWP system
5p.06	Emma Turner <i>ECMWF</i>	A new and extended diverse 40,000 atmospheric profile dataset from the CAMS atmospheric composition forecasting system
5p.07	Viviana Volonnino <i>CNRM, Université de Toulouse, Météo-France, CNRS</i>	Impact of Spectroscopy on IASI and FORUM Clear-Sky Simulations using RTTOV
10:15 - 10:45 Health break		
Session 6 - Generation of products		
Session Chairs: Anna Booton and Joe Taylor		
10:45 - 11:45 oral presentations (each 12 minutes + 3 minutes discussion)		
6.01	Bryan Karpowicz (recorded presentation) <i>UMBC/GESTAR II/NASA</i>	Assimilation of Reconstructed Radiances from IASI and CrIS Principal Component Scores into the GEOS-ADAS
6.02	Joe Taylor <i>SSEC, University of Wisconsin-Madison</i>	The Cross-track Infrared Sounder (CrIS) NASA PCA RED Product

6.03	Dorothee Coppens EUMETSAT (on behalf of Jonas Wilzewski)	Hyperspectral infrared L2 product development at EUMETSAT
6.04	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)		
6p.01	Svetlana Akishina St. Petersburg State University	Methodology for determination of the ozone vertical distribution elements from satellite spectral measurements of IR thermal radiation
6p.02	Anna Booton Met Office	Update on the NWP SAF satellite data processing packages: AAPP, IRSP and MWIPP
6p.03	Xavier Calbet AEMET	Retrievals of Water vapor inhomogeneities within the field of view
6p.04	Liam Gumley SSEC, University of Wisconsin-Madison	Community Satellite Processing Package (CSPP) for Low Earth Orbit (LEO) Satellites: Recent Updates and Future Plans
6p.05	Bozena Lapeta IMGW-PIB	Quality of the ATOVS-derived precipitation amount over Poland during the flood event in September 2024
6p.07	Dorothee Coppens EUMETSAT (on behalf of Simon Warnach)	Level 2 validation and monitoring activities at EUMETSAT for future hyperspectral infrared mission
6p.08	Dorothee Coppens EUMETSAT (on behalf of Jose Luis Villaescusa Nadal)	Validation of IASI Temperature and Humidity using 11 years of airplane (AMDAR) measurements
12:00 - 13:30 Lunch in pre-function area		
<b>Session 7 - Exploitation of artificial intelligence and machine learning</b>		
Session Chairs: Magnus Lindskog and Stephanie Guedj		
13:30 - 14:45 oral presentations (each 12 minutes + 3 minutes discussion)		
7.01	Chris Burrows ECMWF	Skilful weather predictions from observations alone: general concept
7.02	Niels Bormann ECMWF	Skilful weather predictions from observations alone: the role of passive sounders
7.03	Wei Han (recorded presentation) CMA Earth System Modeling and Prediction Centre (CEMC)	Assimilation of all satellite observations using AI: some primary results
7.04	Alice Abramowicz KNMI	Prototype for bias-correction of microwave radiance observations using machine learning methods
7.05	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)		
7p.01	Niels Bormann ECMWF	Sea ice surface emissivity modelling using data assimilation and machine learning
7p.02	Swapan Mallick Swedish Meteorological and Hydrological Institute (SMHI)	Deep Learning Approach to Estimating Uncertainty in the Copernicus Arctic Regional Second Generation Reanalysis: A Prototype
7p.03	Niobe Peinado-Galan AEMET	Analysis of severe convection situations in Africa and Europe with the new NWCSAF sSHA1 product derived from IASI as a proxy for MTG-IRS data
7p.04	Likun Wang University of Maryland	Estimating Tropospheric Methane from Cross-track Infrared Sounder (CrIS) Spectra using a Machine Learning Method
<b>Session 8 - Climate studies</b>		
Session Chairs: Bill Bell and Nathalie Selbach		
14:55 - 15:00 poster introductions with no visual aids (each 1 minute)		
8p.01	Nathalie Selbach Deutscher Wetterdienst	25 Years of a Sustained Generation of Satellite-Based Climate Data Records by EUMETSAT CM SAF
8p.02	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)
15:00 - 16:00 Poster viewing (Sessions 5, 6, 7, and 8) and Coffee break		
16:00 - 17:15 oral presentations (each 12 minutes + 3 minutes discussion)		
8.01	Shibin Balakrishnan India Meteorological Department	Embarking the journey of Fundamental Climate Data Records (FCDR) of Indian Meteorological Satellites.
8.02	Bill Bell ECMWF	The assimilation of radiances in the ECMWF ERA6 global reanalysis.

8.03	Timo Hanschmann <i>EUMETSAT</i>	Microwave temperature sounder fundamental climate data records for climate applications
8.04	Joe Taylor <i>SSEC, University of Wisconsin-Madison (on behalf of Graeme Martin)</i>	The NASA CrIS Level 1B Version 4 Software and Product
8.05	Likun Wang <i>University of Maryland</i>	New Stratospheric Temperature Climate Data Records by Merging SSU with AIRS
<b>19:30 - 22.30 Dinner at Pickled Mango restaurant</b>		
<b>Saturday 10th May 2025</b>		
<i>9:00 - 10:15 Working groups session 1</i>		
	Advanced sounders	
	Products and software	
	International issues and future systems	
<i>10:15 - 10:45 Health break</i>		
<i>10:45 - 12:00 Working groups session 1 continued</i>		
<b>12:00 - 13:30 Lunch in pre-function area</b>		
<i>13:30 - 14:45 Working groups session 2</i>		
	Numerical weather prediction	
	Climate	
	Radiative transfer and surface properties	
<i>14:45 - 15:15 Health break</i>		
<i>15:15 - 16:30 Working groups session 2 continued</i>		
<i>16:30 - 16:45 Health break</i>		
<i>16:45 - 18:00 Technical subgroups meetings</i>		
	Fast RTMs	
<b>19:30 - 22:00 Dinner at Pickled Mango restaurant</b>		
<b>Sunday 11th May 2025</b>		
<i>Local excursions and socializing</i>		
<b>12.00 - 14:00 Lunch at Pickled Mango restaurant</b>		
<b>19:00 - 21:00 Dinner at Pickled Mango restaurant</b>		
<b>Monday 12th May 2025</b>		
<b>Session 9 - Advances in assimilation methods</b>		
<i>Session Chairs: Roger Randriamampianina and Hyoung-Wook Chun</i>		
<i>8:45 - 10:00 oral presentations (each 12 minutes + 3 minutes discussion)</i>		
9.01	Chris Hartman (recorded presentation) <i>U.S. Naval Research Laboratory Marine Meteorology Division</i>	Adaptive Estimation of ATMS Observation Uncertainty to Improve Atmospheric Prediction
9.02	Ethel Villeneuve <i>ECMWF</i>	Expanding the use of geostationary satellite data at ECMWF
9.03	Erin Jones (recorded presentation) <i>UMD ESSIC @ NASA GMAO</i>	Developing a SWIR/MWIR-based Cloud Detection for CrIS in CADS

9.04	Young-Chan Noh Korea Polar Research Institute	Vertical localization for the microwave humidity sounder in the ensemble Kalman filter
9.05	William Campbell (recorded presentation) U.S. Naval Research Laboratory	Graph Theoretic Observation Thinning for Satellite Radiances
10:00 - 10:30 Health break		
10:30 - 11:15 oral presentations (each 12 minutes + 3 minutes discussion)		
9.06	Xi Shuang (recorded presentation) 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
9.07	Thomas Buey Meteo France	Introducing horizontal correlations of satellite observation errors into the data assimilation system of the AROME model
9.08	Qifeng Lu (recorded presentation) CMA / CEMC	Enhancing Numerical Weather Prediction Accuracy through EN4DVAR and Novel Satellite Data Assimilation
11:15 - 11:30 poster introductions with no visual aids (each 1 minute)		
9p.01	Olivier Audouin Meteo France	Assimilating FCI data within the Météo-France models
9p.03	Maria Eugenia Dillon Consejo Nacional de Investigaciones Científicas 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.
9p.04	Na-Mi Lee Korea Meteorological Administration	Diagnostics of CrIS Preprocessing System in Korean Integrated Model (KIM)
9p.05	Cristina Lupu ECMWF	Assimilation of data from the FCI onboard MTG-I1 into the ECMWF system
9p.06	Hiroyuki Shimizu Japan Meteorological Agency	Development for better utilization of AMSR3 humidity sounding channels in JMA's global NWP system
9p.07	Niels Bormann ECMWF (on behalf of Liam Steele)	Assessing the thinning scale for humidity sounding observations at ECMWF
<b>Session 10 - All-sky assimilation</b>		
Session Chairs: Mitch Goldberg and Stefano Migliorini		
11:30 - 12:15 oral presentations (each 12 minutes + 3 minutes discussion)		
10.01	Mary Borderies Météo-France/cnrm	Perturbations of all-sky microwave radiances forward operator specifications within the Ensemble of Data Assimilation system of Météo-France
10.02	Christina Köpken-Watts DWD	Operational all-sky assimilation of geostationary water vapour channels in a regional ensemble Kalman filter NWP system
10.03	Izumi Okabe MRI / Japan Meteorological Agency	Global all-sky radiance assimilation for geostationary satellite imagers
12:15 - 13:45 Lunch in pre-function area		
13:45 - 14:15 oral presentations (each 12 minutes + 3 minutes discussion)		
10.04	Kozo Okamoto JMA/MRI	Global all-sky radiance assimilation for IASI
10.05	Liam Steele (recorded presentation) 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)		
10p.01	Antoine Chemouny CNRM/CNES	Assimilation of IASI all-sky radiances for Numerical Weather Prediction
10p.02	Christina Köpken-Watts DWD	ICON and IFS model cloud evaluation using visible imagers on geostationary satellites
<b>Session 11 - Calibration of sensors</b>		
Session Chairs: Jerome Vidot and Liam Gumley		
14:20 - 14:25 poster introductions with no visual aids (each 1 minute)		
11p.01	Harshitha Bhat CLC Space GmbH	EUMETSAT's IRS L2 Cal/Val and monitoring activities
11p.02	Vinia Mattioli EUMETSAT	EUMETSAT Polar System - Second Generation: pre-launch characterization of the microwave sounder (MWS) onboard Metop-SGA1

11p.03	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
14:25 - 15:10 oral presentations (each 12 minutes + 3 minutes discussion)		
11.01	Quentin Cebe CNES	IASI-NG : Overview of L1 processing and performances
11.02	Guillaume Deschamps EUMETSAT	Spectral Response Function Retrieval of spaceborne Fourier Transform Spectrometers – Application to Metop IASI
11.03	Fuzhong Weng CMA Earth System Modeling and Prediction Centre	An energy-conservation system developed for calibrating satellite microwave instruments
15:15 - 16:15 Poster viewing (Sessions 9, 10, and 11) and Coffee break		
<b>Session 8 - Climate studies</b>		
Session Chairs: Heikki Pohjola and Sreerekha Thonipparambil		
16:15 - 16:30 oral presentations (each 12 minutes + 3 minutes discussion)		
8.06	Guido Masiello University of Basilicata	Comprehensive Infrared forward-inverse analysis of the Ozone hole with IASI
<b>Session 12 - Space agency reports</b>		
Session Chairs: Heikki Pohjola and Sreerekha Thonipparambil		
16:30 - 17:45 oral presentations (each 12 minutes + 3 minutes discussion)		
12.01	Bojan Bojkov EUMETSAT	Overview of the EUMETSAT operated missions and their applications
12.02	Kozo Okamoto JMA/MRI	Status report of space agency: JMA and JAXA
12.03	Pradeep Thapliyal Space Applications Centre (ISRO)	ISRO Agency Report: Present and future satellite instruments in support of Met-Ocean applications
12.04	Lihang Zhou (recorded presentation) NOAA	An Update of NOAA Satellite Missions for ITWG
12.05	Francisco Bermudo CNES - Centre National d'Etudes Spatiales	Overview of CNES Earth Observation programs
18:15 Buses depart from Resort Rio to Palms n Sands		
<b>19:00 - Banquet dinner at Palms n Sands</b>		
<b>Tuesday 13th May 2025</b>		
<b>Session 13 - NWP centre status reports</b>		
Session Chairs: Niels Bormann and Brett Candy		
08:45 - 09:00 oral presentation		
13.01	Andrew Collard (Recorded Presentation) NOAA/NCEP/EMC	Progress and plans for the use of radiance data in the NCEP global and regional data assimilation systems
9:00 - 10:00 one-slide introductions to poster presentations (each 3 minutes)		
13p.01	Olivier Audouin Meteo France	Ongoing developments on satellite radiance assimilation at Météo-France
13p.02	Hyoung-Wook Chun KMA	Satellite Radiance Data Assimilation at Korea Meteorological Administration
13p.03	Mohamed Dahoui ECMWF	ECMWF NWP changes
13p.04	Christina Köpken-Watts DWD	Overview of recent developments in satellite radiance data assimilation at DWD
13p.06	Isabel Monteiro KNMI	Present and future use of satellite atmospheric sounding data in United Weather Centres West
13p.07	Hidehiko Murata Japan Meteorological Agency	Recent upgrades and progresses of satellite radiance data assimilation at JMA
13p.08	Stefano Migliorini Met Office	Satellite radiance assimilation at the Met Office



13p.09	John P George NCMRWF, Ministry of Earth Sciences (Government of India)	NCMRWF NWP status since ITSC-24
13p.10	Ahream Lee UMBC, GMAO NASA/GSFC (on behalf of Yanqiu Zhu)	Status and ongoing developments of satellite data assimilation in NASA GMAO's GEOS
13p.11	Dirceu Herdies CPTEC/INPE	Advances in Data Assimilation at CPTEC/INPE
13p.12	Zheng-Qi Wang McGill University / Environment and Climate Change Canada (on behalf of Alain Beaulne)	Latest upgrades and developments in the use of satellite radiances at ECCC
<b>Session 14 - Future microwave technologies</b>		
Session Chairs: Allen Huang and David Duncan		
10:00 - 10:30 oral presentations (each 12 minutes + 3 minutes discussion)		
14.01	Kristen Bathmann (recorded presentation) Spire Global	Deep Learning-Based Retrievals from Spire's Hyperspectral Microwave Sounder
14.02	Bill Blackwell (recorded presentation) MIT Lincoln Laboratory	Recent Advances in Microwave Sounding: Smallsat Constellations, Beam-steering Arrays, and Cognitive Sensing
10:30 - 11:00 Health break		
11:00 - 12:15 oral presentations (each 12 minutes + 3 minutes discussion)		
14.03	Antonia Gambacorta (recorded presentation) NASA Goddard Space Flight Center	The Advanced Ultra-high Resolution Optical RAdiometer (AURORA) Pathfinder
14.04	Ryan Honeyager The Tomorrow Companies, Inc.	The Tomorrow Microwave Sounder program: an assessment of the observations and observing system impacts
14.05	Satya Kalluri (recorded presentation) NOAA	Experiments in Support of Next Generation Low Earth Orbit Microwave Sounder Formulation at NOAA
14.06	Zaizhong Ma UMD/CISESS	Simulation and Evaluation of NOAA Next-gen Microwave Satellite Observation System with the ECMWF EDA method
14.07	Manju Henry (recorded presentation) Spire Global UK Ltd.	Development and pre-launch characterisation of a Hyperspectral Microwave sounder In Orbit Demonstrator
12:15 - 12:20 poster introductions with no visual aids (each 1 minute)		
14p.01	Mary Borderies Météo-France/cnrm	Impact of WIVERN 94GHz brightness temperature observations on global NWP model forecasts using an OSSE framework
14p.02	Niels Bormann ECMWF	Developing the use of hyperspectral MW observations for global NWP in an Ensemble of Data Assimilations (EDA)
14p.03	Allen Huang University of Wisconsin Madison (on behalf of Richard Delf)	The Global Environment Monitoring System (GEMS) suite of novel passive microwave instrumentation
<b>12:20 - 13:50 Lunch in pre-function area</b>		
<b>Session 15 - Impacts in Indian regional applications</b>		
Session Chairs: Christina Köpken-Watts and Chris Burrows		
13:50 - 14:00 poster introductions with no visual aids (each 1 minute)		
15p.01	Rishi Kumar Gangwar Space Applications Centre (Indian Space Research Organisation)	Atmospheric Temperature and Moisture Profiles from Recently Launched INSAT-3DS Sounder
15p.02	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
15p.03	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
15p.04	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
14:00 - 15:00 oral presentations (each 12 minutes + 3 minutes discussion)		
15.01	Indira Rani S NCMRWF, Ministry of Earth Sciences	Radiance assimilation over the extra-tropics and polar regions: Impact on the simulation of Indian Monsoon



15.02	Srinivas Desamsetti <i>National Centre for Medium Range Weather Forecasting (NCMRWF), MoES</i>	DBNet data assimilation during cyclone events- Advantage of timeliness
15.03	Sujata Pattanayak <i>National Centre for Medium Range Weather Forecasting, MoES</i>	Seasonal Impact of INSAT-3DR Satellite Radiance in NCMRWF Global Forecast System
15.04	Prashant Kumar <i>Space Applications Centre, ISRO</i>	All-sky radiance assimilation of INSAT-3DS Sounder Radiance in the WRF Model
<b>Session 16 - The use of surface-sensitive data and Session 17 - Regional Studies: poster introductions</b>		
Session Chairs: Cristina Lupu and Sumit Kumar		
15:00 - 15:15 poster introductions with no visual aids (each 1 minute)		
16p.01	Hyeyoung Kim <i>Korea Institute of Atmospheric Prediction System</i>	Study on extending the use of satellite microwave sounder data over the land
16p.02	Christina Köpken-Watts <i>DWD (on behalf of Mahdihyeh Mousavi)</i>	Assimilation of IASI Observations Over Land: Impact of Improved Surface Emissivity and Skin Temperature
17p.01	Erik Dedding <i>KNMI</i>	Towards a full exploitation of satellite radiance information using transformed retrievals in HARMONIE-AROME 4D-Var
17p.02	Reima Eresmaa <i>Finnish Meteorological Institute</i>	Variational Bias Correction of Polar-Orbiting Satellite Radiances in Convective-scale Data Assimilation
17p.03	Nahidul Samrat <i>Bureau of Meteorology</i>	Himawari Radiance Integration in the Bureau Limited-Area Assimilation System: Impact of Assimilation, Error Diagnostics and Treatment
17p.04	Magnus Lindskog <i>SMHI (on behalf of Jana Sanchez-Arriola)</i>	Characterisation and Handling of Errors of Satellite Radiances for km-scale Data Assimilation over Three Operational Domains
17p.05	Dirceu Herdies <i>CPTEC/INPE</i>	Use of Radar and Lightning Data Assimilation in Short-term Forecast over Brazil
<b>Session 16 - The use of surface-sensitive data</b>		
Session Chairs: Cristina Lupu and Sumit Kumar		
15:15 - 15:30 oral presentations (each 12 minutes + 3 minutes discussion)		
16.01	Swapan Mallick <i>Swedish Meteorological and Hydrological Institute (SMHI)</i>	Significance and Impact of High-Resolution Variational Assimilation of Satellite Microwave Radiances over Difference Surfaces
15:30 - 16:30 Poster viewing (Sessions 13, 14, 15, 16, and 17) and Coffee break		
16:30 - 17:15 oral presentations (each 12 minutes + 3 minutes discussion)		
16.02	Roger Randriamampianina <i>Norwegian Meteorological Institute (on behalf of Mate Mile)</i>	An Observing System Simulation Experiment for satellite observations: Uncertainty estimation of emissivity retrieval over sea-ice and land
16.03	Zheng Qi Wang <i>McGill University / Environment and Climate Change Canada</i>	Simultaneous Estimation of Atmospheric Temperature, Surface Emissivity and Skin Temperature by Assimilating Surface-Sensitive Microwave Observations Over Land in a 1D-EnVar System
16.04	Hongyi Xiao (recorded presentation) <i>CMA Earth System Modeling and Prediction Center</i>	Toward the all-surface assimilation of surface-sensitive satellite data from microwave temperature- and humidity-sounding channels in CMA-GFS 4D-Var system
<b>Session 17 - Regional studies</b>		
Session Chairs: Cristina Lupu and Sumit Kumar		
17:15 - 17:45 oral presentations (each 12 minutes + 3 minutes discussion)		
17.01	Tobiasz Górecki <i>Institute of Meteorology and Water Management – National Research Institute</i>	Taking Advantage of Vertical Temperature and Dew Point Profiles Derived from HEAP and MIRS Software: Validation Products over Poland and Case Study Analysis
17.02	Stephanie Guedj <i>The Norwegian Meteorological Institute</i>	Optimizing the assimilation of radiances in the operational AROME-Arctic NWP system
<b>19:00 - 21:00 - Dinner on the Rio Pool Lawn</b>		
<b>Wednesday 14th May 2025</b>		
Closing session		
9:00 - 10:20 Recaps from the WG meetings (each 20 minutes)		

Advanced sounders
Products and software
International issues and future systems
Numerical weather prediction
<i>10:20 - 10:50 Health break</i>
<i>10:50 - 11:50 Recaps from the WG meetings (each 20 minutes)</i>
Climate
Radiative transfer and surface properties
Fast RTMs technical subgroup
<i>11:50 - 12:00 Closing ceremonies</i>
<i>12:00 - 13:30 Lunch in pre-function area</i>