



WORLD
METEOROLOGICAL
ORGANIZATION
WEATHER CLIMATE WATER

WMO TECHNICAL CONFERENCE
ON METEOROLOGICAL AND ENVIRONMENTAL
INSTRUMENTS AND METHODS OF OBSERVATION
(TECO-2024)

**The WMO Technical Conference
on Meteorological and Environmental Instruments and
Methods of Observation
(TECO-2024)**

**Vienna, Austria
23-26 September 2024**

**Theme: "*Measurements and new technologies for WMO
priority initiatives*"**

**DRAFT PRELIMINARY PROGRAMME
(as of 26 June 2024)**

MONDAY, 23 SEPTEMBER 2024

08:00 – 09:00	Registration	WMO Secretariat	
09:00 – 09:30	Opening Ceremony		
TOPIC 1: NEW MEASUREMENT TECHNOLOGIES AND INNOVATIVE INTEGRATED APPROACHES			
Time	Title of presentations	Author(s)	Country
09:30 – 09:45	Multi-Magnification Networks for Visibility Estimation	Mr. Nicola Santacroce et al.	Switzerland
09:45 – 10:00	Cosmic Rays Neutron Sensing is a mature technology for Snow Water Equivalent measurement	Dr. Enrico Gazzola et al.	Italy
10:00 – 10:15	Strategy and technology for de-icing treatment on roads and runways during winter precipitation.	Dr. Arkady Koldaev et al.	Russian Federation
10:15 – 10:30	THERMACERN: A new method for precipitation analysis from Thies CLIMA.	Dr Christoph Peper	Germany
10:30 – 11:00	COFFEE / TEA BREAK		
11:00 – 11:15	AI improvement of irradiance measurements	Dr Marc Korevaar et al.	Netherlands
11:15 – 11:30	Development and Application of Microclimate Observation Network in Hong Kong	Dr Dick Ho-ming Leung et al.	Hong Kong, China
11:30 – 11:45	Exploitation of webcam images for coastal applications	Ms. Nerea Garmendia García et al.	Spain
11:45 – 12:00	The Yucatan HF Radar Network as a Pathfinder for Caribbean-wide Operations	Dr. Scott Glenn et al.	United States of America
12:00 – 12:30	1-min Presentations of Session 1 Posters (1 slide for each)		
12:30 – 14:00	LUNCH BREAK		
14:00 – 14:15	Mode-S: the benefits and challenges of high-density aircraft observations	Mr. Bruce Ingleby	United Kingdom
14:15 – 14:30	Cost-effective, High-accuracy Routine Atmospheric Profiling with wxUAS	Dr. Ben Pickering et al.	United Kingdom
14:30 – 14:45	Mapping horizontal wind speed using a single Doppler Wind Lidar scanning horizontally: a test case over Paris	Dr. Clément Toupoint et al.	France
14:45 – 15:00	A situ profiling techniques that can provide cost-effective upper-air measurements Round-trip Drifting Sounding System (RDSS) in China	Mr. Qiyun Guo et al.	China

15:00 – 15:15	Enhancing Precipitation Particle Observations: The Development and Application of the Balloon-borne and Ground-based Rainscope	Dr Kenji Suzuki et al.	Japan
15:15 – 15:30	WindBorne Global Sounding Balloon Observations	Mr.Todd Hutchinson et al.	United States of America
15:30 – 15:45	Machine learning methodology for remote calibration and anomaly detection in collaborative sensor fusion networks	Mr. Amul Batra et al.	India
15:45– 16:15	COFFEE / TEA BREAK		
16:15 – 17:30	PANEL DISCUSSION SESSION 1: Trends and innovation in measurement technologies		

TUESDAY, 24 SEPTEMBER 2024			
TOPIC 2: ENVIRONMENTAL SUSTAINABILITY OF OBSERVING SYSTEMS			
Time	Title of presentations	Author(s)	Country
09:00 – 09:15	Driving a paradigm shift: key outcomes from the WMO initiative to advance the environmental sustainability of observing systems and methods	Dr Michael Earle et al.	Canada
09:15 – 09:30	A novel Method of evaluating the environmental Impact of Radiosondes	Mr Johannes Frielingsdorf et al.	Germany
09:30 – 09:45	Evaluating the effectiveness of propylene glycol and ethanol as antifreeze: an environmentally friendly alternative	Dr Bikas Chandra Bhattarai et al.	Norway
09:45 – 10:00	Development and Testing of an Ultralight Reusable Glidersonde	Mr Yohan Hadji et al.	Switzerland
10:00 – 10:15	Two examples of the use environmentally-friendly sensors by Météo-France	Dr Jérôme Duvernoy et al.	France
10:15 – 10:30	A truly sustainable and comprehensive solution for The Global Basic Observing Network	Mr Timo Siirtola et al.	Finland
10:30 – 11:00	COFFEE / TEA BREAK, POSTER VIEWING, EXHIBITION VISIT		
TOPIC 3: CHARACTERIZATION AND TESTING OF INSTRUMENTS AND METHODS			
Time	Title of presentations	Author(s)	Country
11:00 – 11:15	Multi-year Analysis of All-In-One Meteorological Observing	Dr Bradley Illston	United States of America

	Instruments for Scientific Research Use		
11:15 – 11:30	Intercomparison of radiation shields in polar climate. COAT Project	Dr Carmen Garcia Izquierdo et al.	Spain
11:30 – 11:45	Impact of thermometer diameter on observations of air temperature	Ms Laura Bevilacqua et al.	United Kingdom
11:45 – 12:00	Environmental Influences on field measurement of Temperature	Dr Jane Warne et al.	Australia
12:00 – 12:15	Installation and Operation of Ultrasonic Anemometers in JMA	Mr Takashi Hamagami	Japan
12:15 – 12:45	1-min Presentations of Sessions 2, 3 and 4 Posters (1 slide)		
12:45 – 14:00	LUNCH BREAK, EXHIBITION VISIT		
14:00 – 14:15	Improving the cloud cover estimation using wide-field of view imagers compared to narrow field instruments	Mr Mehdi Ben Slama et al.	France
14:15 – 14:30	A method to correct the internal calibration of CHM15k ceilometers using housekeeping parameters	Dr Maxime Hervo et al.	Switzerland
14:30 – 14:45	Inter-comparison of rainfall estimates from two optical rain gauge models	Ms Hiu Yan Li et al.	Hong Kong, China
14:45 – 15:00	Development of quantitative precipitation estimation (QPE) relations for dual-polarization radars based on raindrop size distribution measurements in Metro Manila, Philippines	Mr Marco Polo Ibanez et al.	Philippines
15:00 – 15:30	POSTER SESSION FOR TOPIC 1, 2 & 3		
15:30 – 16:00	COFFEE / TEA BREAK, POSTER VIEWING, EXHIBITION VISIT		
16:00 – 17:15	PANEL DISCUSSION SESSION 2: Evolving measurement requirements for WMO priorities (EW4All, G3W, GBON, RBON and WIGOS Vision*)		

WEDNESDAY, 25 SEPTEMBER 2024			
TOPIC 4: TRACEABILITY OF MEASUREMENTS TO RECOGNIZED STANDARDS			
Time	Title of presentations	Author(s)	Country
09:00 – 9:15	Introduction to the development of ISO test method standards of radiosonde temperature, humidity, and solar radiation correction	Dr Yong-Gyoo Kim	Republic of Korea
09:15 – 9:30	Experimental study on measurement uncertainty of air temperature observation	Dr Jianxia Guo et al.	China

09:30 – 9:45	Intercomparison and traceability of visibility measurements	Dr Jessica Strickland et al.	Netherlands
09:45 – 10:00	Sea-Ice Observations: Optimizing Methods in a Changing Environment	Dr Petra Heil et al.	Australia
10:00 – 10:15	Measurement uncertainty of eddy covariance based carbon budget	Dr Nicola Arriga	Italy
10:15 – 10:45	COFFEE / TEA BREAK, POSTER VIEWING, EXHIBITION VISIT		
10:15 – 10:45	Introduction of SC-MINT* and its Activities to the Experts by Expert Teams Chairs for Potential Membership		
TOPIC 5: QUALITY ASSURANCE AND MAINTENANCE OF THE OBSERVING SYSTEMS			
10:45 – 11:00	Siting Classification 2024: Guidance on implementation of the siting classification and future work on its optimization	Dr Mareile A. Wolff et al.	Norway
11:00 – 11:15	Maintenance and quality assurance of New York State Mesonet	Dr Junhong Wang	United States of America
11:15 – 11:30	Challenges in the Utilization of Automatic Weather Stations for Operational Use and Weather Forecasting	Mr B Sudarsan Patro et al.	India
11:30 – 11:45	MET Malaysia's Meteorological Mobile Maintenance and Site Calibration	Mr Mohd Azman Abd Ghafar	Malaysia
11:45 – 12:30	1-min Presentations of Sessions 5 & 6 Posters (1 slide)		
12:30 – 14:00	LUNCH BREAK, EXHIBITION VISIT		
14:00 – 14:15	Research and Application of Weather Radar Calibration Methods	Dr Yubao Chen et al.	China
14:15 – 14:30	Frequency interference elimination in weather radars	Mr Quang Vinh Nguyen et al.	Vietnam
14:30– 14:45	Aircraft Observations – Determining Quality Data in RA V	Dr Douglas Body	Australia
14:45 – 15:15	POSTER SESSION FOR TOPIC 4, 5 & 6		
15:15 – 15:45	COFFEE / TEA BREAK, EXHIBITION VISIT		
15:45-17:00	PANEL DISCUSSION SESSION 3: Capacity development and challenges in maintaining measurement networks		
17:00 – 18:00	DRINK RECEPTION		

THURSDAY, 26 SEPTEMBER 2024

TOPIC 6: CAPACITY DEVELOPMENT FOR SUSTAINABLE AND QUALITY MEASUREMENTS

09:00 – 09:15	The benefits of a standardised technical specification for Automatic Weather Station design and installation	Mr David Hiscock	United Kingdom
09:15 – 09:30	Field evaluation 3D-Printed Automatic Weather Stations (3D-PAWS) in Türkiye	Mr. Engin Oztürk et al.	Türkiye
09:30 – 09:45	The Role of Adequate Climate Observational Network in Supporting Robust Climate Change Adaptation and Mitigation; a case study of Kenya	Mr Nixon Lang'at et al.	Kenya
09:45 – 10:00	Sustainable and quality measurements for answering AFOLU emission challenges regarding NDCs in Colombia	Dr Edwin Cristancho-Pinilla et al.	Colombia
10:00 – 10:15	Provision of AWS training - lessons learnt	Mr Andrew Harper et al.	New Zealand
10:15 – 10:45	COFFEE / TEA BREAK, POSTER VIEWING		
10:45 – 11:00	Standardization Of First-Mile Data Collection in China	Dr Dongdong Chen et al.	China
11:00– 11:15	Caribbean WIS 2.0 Node Advances supports EW4ALL – Novel Use of New Technology in a Whole-of-Region Approach	Mr. Kenneth Kerr et al.	British Caribbean Territories
11:15 – 11:45	The current challenges and future research directions for measurement of the rainfall using the commercial microwave links (CMLs)	Mr Anowar Hossen et al.	Bangladesh
11:45 – 12:00	Hydrometric Network Design: A review of Surface Water Monitoring in Uganda	Mr David Kataratambi	Uganda
12:00 – 12:15	Developing water resources management plans for enhanced management, protection, development, and sustainable utilisation of water resources in Lesotho	Ms Kananelo Bookholane et al.	Lesotho
12:15 – 13:45	LUNCH BREAK, EXHIBITION VIEWING		
13:45 – 14:00	WMO Guide to Operational Weather Radar Best Practices – first edition	Dr Daniel Michelson et al.	Canada
14:00 – 14:15	Specifications for solid-state transmitter weather radars	Mr Pekka Utela et al.	Finland
14:15 – 14:30	Enhancing Remote Sensing and Aviation Infrastructures for Meeting Challenges through System Integration and Continuous Improvement	Dr Neeti Neeti Singh et al.	India
14:30 – 14:45	Observation comparison and mutual verification of the integrated air-surface system for Fengyun meteorological satellite	Dr Peng Zhang et al.	China
14:45– 15:00	CLOSING OF TECO-2024		

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EW4All: Early Warnings for All

G3W: Global Greenhouse Gas Watch

GBON: Global Basic Observing Network

RBON: Regional Basic Observing Network

WIGOS: WMO Integrated Global Observing System

SC-MINT: INFCOM/Standing Committee on Measurements, Instrumentation and Traceability

INFCOM: Commission for Observation, Infrastructure and Information Systems

POSTER SESSIONS

TOPIC 1: NEW MEASUREMENT TECHNOLOGIES AND INNOVATIVE INTEGRATED APPROACHES		
Title	Author (s)	Country
A joint initiative between WMO and HMEI on standardization of data collection	Mr Rémy Giraud	France
SSPA Dual-polarization Weather Radar Maintenance	Mr. Hiroya Endo et al.	Japan
Impact of assimilating Mode-S observations into the Met Office global deterministic NWP model on forecast accuracy, from a European and global network	Dr. Elliott Warren et al.	United Kingdom
Organizational and Methodological Issues of Operation of Modern Hydrometric Measurement Equipment in the Hydrometeorological Service of Ukraine	Dr Viacheslav Manukalo et al.	Ukraine
Heavy rainfall events of the last 20+ years in Germany: A web-based open information tool	Dr Thomas Einfalt et al.	Germany
SwissMetNet migrating to cloud technologies	Dr Christian Félix et al.	Switzerland
Weather Radar Siting and Implementation in Egypt	Mr El Fouly Sabry	Egypt
Development of All-weather UAV (Marshall) and Initial Observations	Dr Kazuhiro Yoshimi et al.	Japan
Develop an AI utility to detect cloud types and meteorological visibility in real-time.	Mr Hamza Hamza Mohamed	Egypt
Improving runway visual range calculation using an optimized optical parameter	Mr Yashar Rostami et al.	Islamic Republic of Iran
Nova PM Sensor SDS011 for Alternative Air Quality Monitoring based on Internet of Things	Mr Arsy Yudha Prinanto et al.	Indonesia
Fault-Tolerant Architecture for Automatic Weather Stations: A Comparative Study of TMR and 5MR Sensor Structures	Dr Navid Chiniforoush	Islamic Republic of Iran
Ground-based lidar operational and research activities at KNMI	Dr Knoop Steven et al.	Netherlands
Development of small uncrewed surface observation vehicles to contribute to typhoon monitoring, forecasting, and modification in the tropical Northwest Pacific Ocean	Dr Shuichi Mori et al.	Japan
Fast and High Resolution Detection Technology Implemented on Weather Radar	Mr Chian Zhang et al.	China
Digitization of self-recording charts using digital image processing	Mr Bibraj Raj	India

TOPIC 1: NEW MEASUREMENT TECHNOLOGIES AND INNOVATIVE INTEGRATED APPROACHES

Title	Author (s)	Country
Integrated Low-Cost Radar Sensor for Snow Height Measurement: Prototype and Complete Winter Season Measurements	Mr Víctor Herráiz-López et al.	Spain
Correction, based upon the air density, of the Density Size Distribution (DSD) estimated by Radar precipitation sensor to improve liquid precipitation measurement	Mr J. Ismael Sanambrosio et al.	Spain
Introduction of Standard Meteorological Observatory in the Korea Meteorological Administration	Mr Ki Hoon Kim	Republic of Korea
Flight altitude control technique using latex weather balloons aimed for advancing upper-air observations	Dr Kensaku Shimizu et al.	Japan
Assessment of Stratospheric Dropsonde Data through NWP Model Comparisons	Mr Matthew Fry	United Kingdom
LidarCUBE - an advanced compact lidar for routine operations	Dr Kathrin Baumgarten et al.	Germany
Enhancing Radiosonde Temperature Measurements Through Advanced Sensor Coatings	Mr Sencer Aydın et al.	Türkiye
LEELA lightning detection and VLF recording	Dr Edmund K Stone et al.	United Kingdom
Radar wind data calibration at different levels using actual wind measuring instruments	Mr Rohit Shukla et al.	India
Fog Fusion Techniques for Enhanced Spatiotemporal Prediction	Dr Neeti Singh et al.	India
Extracting Key Indicators of Snow and Horizontal Visibility from Webcam Images	Dr Pierre Lepetit et al.	France
New design of radiation shield (RS) – comparison	Mr Juraj Schwarz	Slovakia
Development of the HF Radar Network in Indonesia and Its Application to Observe the Indonesia Throughflow (ITF) Real-time	Dr Furqom Alfahmi et al.	Indonesia
A Novel Camera-Based Approach to Increase the Quality, Objectivity and Efficiency of Aeronautical Meteorological Observations	Mr Lukas Ivica	Slovakia
Advancements in air temperature measurement technologies: evaluating and comparing the new SMaT CELLino solar screen	Dr Adriano Fedi et al.	Italy
Innovative solution to see rainfall	Ms Amélie Thevenet-Leprevost	France
Validation and benchmark of a novel low-cost measurement system of direct and diffuse irradiance at six sites worldwide	Dr Blum Niklas et al.	Germany
Presentation of the French national weather service new automatic weather station dedicated to aeronautical platforms.	Mr Leroy Fabrice	France
Weather Surveillance: Aircraft-based Observations via Automatic Dependent Surveillance – Broadcast	Mr Darr Stephen	United States of America

TOPIC 1: NEW MEASUREMENT TECHNOLOGIES AND INNOVATIVE INTEGRATED APPROACHES

Title	Author (s)	Country
Exploring the Intersection of Climate Governance, Solar Radiation Management, and Advancements in Measurement Technologies	Ms Yvette RAMOS	Portugal
The Importance of Data in Emergency Management	Mr Kerry Caslow Christian Abouzeid et al.	United States of America
Estimation of sunshine duration using one-minute global irradiance measurements	Dr Mehdi Rezaei et al.	Islamic Republic of Iran
Multi-wavelength Polarized Raman Meteorological Lidar Observation Network	Dr Nan Shao et al.	China
Common Data Communication Protocol	Mr Yusuf Salih Eroğlu et al.	Türkiye
Compact Raspberry Pi-Based Automatic Rain Gauge Data Logger for Supporting Rain Monitoring in Indonesia	Mr Simon Baharja Siagian et al.	Indonesia
Smart Data Logging System	Mr Yusuf Salih Eroğlu et al.	Türkiye
Global Data Sharing for the 21st Century	Ms Elizabeth Wilson et al.	United States of America
Communicating Integrated Early Warning Weather Information	Mr Jon Tarleton	United States of America
Testing the Performance of AI-visibility Systems Using CCTV Camera	Mr Sin Tae Chae	Republic of Korea
CLODES®, AI-Based System For Overview Of Current Sky Condition, In Terms Of Clouds Classification And Coverage	Dr Claudio Fausto Petrachi et al.	Italy
Storm Surge Modelling in The Eastern Indonesia Waters	Mr Khafid Rizki Pratama	Indonesia
Comparison Of Digital And Analogue Instruments	Mr Hamudi Sikoya	Zimbabwe
Deep-Pathfinder: A Computer Vision Algorithm For Near-Real-Time Boundary Layer Height Detection Using Ceilometer Observations	Dr Jasper S. Wijnands et al.	Netherlands
Digitization Of Mercury Barometers And Verification Process Of Digital Barometers Of Synoptic Stations In Senegal	Mr Ibrahima Diallo et al.	Senegal
Monitoring forests in remote areas by IoT based measuring systems: the RemoTrees project	Dr Luca Belelli Marchesini et al.	Italy
Dropsondes from the Stratosphere: Targeted Observations Over Remote Regions Using Stratospheric Platforms.	Mr Paul Stevens et al.	United Kingdom
FENGYUN Meteorological Satellite: An Innovation Platform for Earth Observation	Dr Dongyan Mao et al.	China
Eddy covariance flux system on a buoy: recent advancements in gas analyzer technology	Dr Ivan Bogoev et al.	United States of America

TOPIC 1: NEW MEASUREMENT TECHNOLOGIES AND INNOVATIVE INTEGRATED APPROACHES

Title	Author (s)	Country
"Improvement of Cloud Mask Generated from Satellite Data with Various Parameters, Data Analysis and Machine Learning Methods.	Mr Yasin Er	Türkiye
Cloud classification from global horizontal irradiance data using a ML model in Buenos Aires, Argentina	Ms Anabela Lusi et al.	Argentina
Advancing methods for monitoring thermal balance of sea ice during the North Pole - 41 expedition 2022/2024 based on Lagrangian profiling buoys	Dr Smolyanitsky Vasily et al.	Russian Federation
Innovation in met-ocean observing to address upcoming blue economy challenges.	Mr Chad Whelan et al.	United States of America
Rainfall-runoff modeling using SCS-CN under HEC-HMS and GIS techniques in Matadi catchment of Congo River, Democratic Republic of Congo	Dr Kabadi Papy et al.	DR Congo
Sea Surface Salinity Drifting Buoys Based on SVT Technology	Dr Eugene Lunev et al.	Russian Federation
Monitoring of water level and the issue with water discharges	Mr Vasko Stojov	North Macedonia
Title: Using AI and the Internet of Things to Create a Global Network for Environmental Monitoring	Mr Ahmed Sharafaddin	Yemen
Experiences of IoT measurement technology in meteorological and marine applications	Mr Lasse Latva et al.	Finland

TOPIC 2: ENVIRONMENTAL SUSTAINABILITY

Title	Author(s)	Country
Sustainability and availability: democratisation of radar technology	M Michal Najman et al.	Czechia
The "Green Reconstruction" Approaches As a Basis of the Restoration of the Hydrometeorological Observations System of Ukraine	Dr Viacheslav Manukalo et al.	Ukraine
Replacing fixed electronics with traditional instruments in meteorological stations in order to achieve environmental sustainability	Mr Nematollah Oghba	Islamic Republic of Iran
Sustainable weather and environmental observation systems	Mr Wathik Chahabane Youssouf	Comoros
Effect of balloon size, parachute use and radiosonde design on the safety of descending radiosondes	Mr David Edwards et al.	United Kingdom
Transition from mercury thermometer to digital thermometer in Nepal	Mr Suresh Khanal et al.	Nepal

TOPIC 3: CHARACTERIZATION AND TESTING OF INSTRUMENTS AND METHODS

Title	Author(s)	Country
Study of the Effectiveness of Commonly Used Rainfall Measuring Instruments in Measuring Rainfall Intensity in Malaysia	Mr Wan Mohd Nazri Wan Daud et al.	Malaysia
Verifying the radiosonde humidity sensor performance	Dr Alexander Kochin	Russian Federation
Design for the small-sized air-circulating chamber for thermometer comparison applicable to the liquid bath	Mr Sunghun Kim et al.	Republic of Korea
Optimizing Meteorological Data Collection with Digital Climate Stations: A Comprehensive Analysis	Mr Gde Krisna Lingga Aditama et al.	Indonesia
Weather Radar Rainfall Estimation Performance Based On Z-R Relationship and CNN Approach	Mr Naufal Ananda et al.	Indonesia
Testing Procedure for Data Loggers in AWS Environment	Mr Ampere K et al.	India
Comparative Analysis of Temperature and Humidity Sensors in Unusual Environmental Conditions	Mr Hendri Satria WD et al.	Indonesia
Verifying the Performance of Wind Profiler Radar for Observing the Vertical Wind Condition to Increase the Meteorological Services for Aviation Sector	Mr Mahendra Richard Putra	Indonesia
A Comparison of Daily Rainfall Measurements at Irish Stations: Pluvio Weighing Rain Gauge versus Manual Gauge	Mr Tony O'Leary et al.	Ireland
Variations in the rainfall trend in the eastern Tigullio area (Liguria region, Italy)	Dr Claudio Monteverde et al.	Italy
Outcomes of instrument in intercomparisons between Radiosonde in (UAI2022)	Dr Zeinab Fahmy	Egypt
Assessing measurement uncertainty and response time of RS41 humidity sensors using an upper air simulator	Mr Young-Suk Lee et al.	Republic of Korea
Comparative study of rain measurement by optical disdrometers and tipping-bucket rain gauges in Basque Country	Mr Santiago Gaztelumendi et al.	Spain
Evaluation and inter-comparison of weighing gauge measurements in Basque Country.	Mr Santiago Gaztelumendi et al.	Spain
Metrological validation of the 48.8 °C European extreme air temperature record	Dr Chiara Musacchio et al.	Italy
Further steps towards an open-source RS41 Data Processing Toolchain	Mr Johannes Frielingsdorf et al.	Germany
Intercomparison of thermometers in a Stevenson Screen under polar climate	Dr Carmen Garcia Izquierdo et al.	Spain
Winter field test of the Lufft SHM31 laser snow depth sensor	Mr Darren Lyth	United Kingdom
Dependence of surface air temperature measurement on thermometer's installation height	Mr Alberto Bottacin et al.	Italy
improvement of relative humidity measurement in a meteorological	Mr Mounir AZIZ	Morocco

TOPIC 3: CHARACTERIZATION AND TESTING OF INSTRUMENTS AND METHODS

Title	Author(s)	Country
observation network characterized by an extreme environment		
Influence of user errors on ADCP measurement outcome	Mr Tomas Boraros et al.	Slovakia
Comparison of Automatic Instrument and Conventional Weather Observing Instrument for Rainfall monitoring for the period of 2015 to 2022 in Uganda	Mr Andrew Ssali et al.	Uganda
Instrumentation performance and preliminary results for running SNOWPACK model	Dr Samuel Buisan et al.	Spain
In laboratory and in field metrological study of an AWS	Mr Javier Garcia Skabar et al.	Argentina
Double scattering non-catchment IR precipitation sensor "Ray" for road de-icing operation	Dr Arkady Koldaev et al.	Russian Federation
Comparison of Carbon Dioxide Emissions Calculated by Different Methods for Determining the Biomass Content in a Waste Incinerator	Mr Seung Hyun Jung et al.	Republic of Korea
Investigation of recharge mechanisms in the South Phuthiatsana catchment using oxygen and hydrogen isotopes	Mr Thabang Phori et al.	Lesotho
End-to-end weather radar calibration and monitoring	Dr Marc Schneebeli et al.	Switzerland
The wind induced bias of the 2D Video Disdrometer	Dr Enrico Chinchella et al.	Italy
Time Constant of a Newly Released Air Temperature Sensor and its Implications	Dr Dirk V.Baker et al.	United States of America
SSPA-X and Klystron Weather radar Operational and Observational performance Comparison overview through case studies	Mr Arul Malar Kannan Bagavath Singh et al.	India
Towards wider usage of radiosonde descent data	Mr Bruce Ingleby	United Kingdom
Effects of environmental conditions on the CIMO WMO Class determination for OTT HydroMet precipitation sensors	Dr Johanna Spiegel-Pinzer	Germany
An intercomparison of precipitation sensors to evaluate the uncertainty in precipitation type determination in Oslo	Mr Renaud Gaban et al.	Norway
Field trials of trace-gas analyzers designed for eddy covariance flux measurements of methane (CH ₄) and nitrous oxide (N ₂ O)	Mr Scott Cornelsen et al.	United States of America

TOPIC 4: TRACEABILITY OF MEASUREMENTS TO RECOGNIZED STANDARDS

Title	Author(s)	Country
Calculation of The Correction Factor of Test Point Effect in Wind Tunnel Calibration	Dr Zafer Turgay Dag et al.	Türkiye
GSRN Pilot - Understanding uncertainties, developing data products and implementing a global surface reference network	Dr Tilman Holfelder et al.	Germany
A global scientific effort to improve atmospheric air temperature measurements.	Dr Andrea Merlone et al.	Italy
Laboratory calibration of disdrometers using a precision raindrop generator	Dr Enrico Chinchella et al.	Italy
Enhancing Calibration Capacity in Compact Relative Humidity Calibrators	Dr Adam Krovina et al.	Slovakia
Details of temperature measurement in the operational UK network	Mr Mike Molyneux	United Kingdom
SI-Traceable Indoor Calibration of Pyranometers by Comparison with a Reference Solar Cell	Dr Jae-Keun Yoo et al.	Republic of Korea
Evaluating the environmental effect on air temperature measurements from ground-based stations	Ms Natali Giselle Aranda et al.	Argentina
Arctic Metrology: case study for air temperature measurements at Ny-Ålesund, Svalbard	Dr Graziano Coppa et al.	Italy
Adoption and implementation of ISO 17025 in Geolux hydrological laboratory	Dr Sanja Grubesa et al.	Croatia
Impact of the dust and sandstorm on the Global Surface Radiation	Dr Ayman Badawy	Egypt
Comparing measurements obtained with two KNMI precipitation gauge set-ups to a field reference designed according to the ISO/EN 13798:2010 standard	Mr Michael Quinlan	Netherlands
Towards a next generation meteorological observing network for the Netherlands: first experiences from a managed change perspective	Mr Marijn de Haij et al.	Netherlands
Participation of RIC Casablanca in ILC of pyranometers and pyrhemometers organized by "the European ESTI laboratory of the Joint Research Center (JRC)"	Mr Mounir AZIZ	Morocco
Presentation of the new calibration procedure according to ISO9847:2023 for pyranometers according to the two indoor and outdoor calibration operating modes traceable through absolute cavity radiometer	Mr Mounir AZIZ	Morocco
Standard development: ISO WD 28902-2023: Part 4: Particle backscatter lidar	Mr Holger Wille et al.	Germany

TOPIC 4: TRACEABILITY OF MEASUREMENTS TO RECOGNIZED STANDARDS

Title	Author(s)	Country
Fundamental and Practical Aspects of Humidity Measurement: Real-world Calibration Techniques for Challenging Environments.	Dr Jeremy Wingate	United Kingdom
New design Wind direction sensor calibration advantages	Mr Salih Çakıl	Türkiye
Optimizing Meteorological Automatic Station Locations for Enhanced Weather Monitoring and Disaster Preparedness: A Multi-Criteria Decision-Making Approach	Mr Adnan Tahir Ozyesil	Türkiye

TOPIC 5: QUALITY ASSURANCE AND MAINTENANCE OF THE OBSERVING SYSTEMS

Title	Author(s)	Country
Development of meteorological measurement standards: An introduction to the VDI-Standards	Dr Ge Cheng et al.	Germany
Sustaining a global observing network – the International Monitoring System perspective	Dr Lucie Pautet et al.	France
Introduction of Regional WIGOS Center (RWC) Tokyo Initiatives	Mr Satoshi Kimura et al.	Japan
What peculiar situations can we find on the Basque coast?	Ms June Madariaga Navarro et al.	Spain
Installation, Maintenance and Quality Control Procedures of the Network of Automatic Meteorological Stations.	Ms Martha Eugenia Pereira Molina et al.	Costa Rica
Use of machine learning methods for quality control and data restoration of metocean data	Dr Jose Araya	Costa Rica
Multiobjective Budget Allocation for Quality Assurance and Maintenance of Meteorological Observing Systems	Dr Kizito Mubiru et al.	Uganda
Rehabilitation of Environmental Conditions of Observing Stations for Improving The Availability and Quality of the Observations	Mr Mustafa Atılan et al.	Türkiye
Quality of meteorological data and its impact on weather forecasts	Mr Jaber Al-Moghawish	Syria
The use of the Theodolite HD mobile application, orthophoto images and a digital relief model for the purpose of classifying the locations of meteorological stations for selected meteorological elements	Mr Karol Seják	Slovakia
Implementation of Spare Part Analysis Using Reliability, Maintainability, and Availability (RAM) Metrics for Automated Weather Observing System Spare Parts Procurement in Indonesia	Mr Sugiarto Sugiarto et al.	Indonesia

TOPIC 5: QUALITY ASSURANCE AND MAINTENANCE OF THE OBSERVING SYSTEMS

Title	Author(s)	Country
Calibrating Complex Physical Hydraulic Models: Lessons from the Dirout Group of Regulators (DGR), Egypt.	Dr Mohamed Mohamed Abdellatif	Egypt
Meteorological measurement standards: Overview of ISO/TC 146/SC 5 "Meteorology" Scope and Activity	Dr Ge Cheng et al.	Germany
Challenges and Best Practices in Spare Parts and Consumables Management (A Case Study of Zimbabwe Meteorology Services Department)	Mr Travolta Anesu Zibani	Zimbabwe
Automatic siting class of weather stations to assess the effects of heat sources and shadows in Norway	Dr Pierre-Marie Lefeuvre et al.	Norway
Lidar Quality Assurance System	Dr Zhichao Bu et al.	China
Infrastructure of the National Meteorological Service of Argentina for measuring atmospheric aerosols	Ms Giselle Marincovich et al.	Argentina
KMA/NIMS Atmospheric Research Aircraft (NARA) observation system operation status and activities	Mr Sueng-Pil Jung et al.	Republic of Korea
Automatic quality control of observational data at MET Norway	Dr Amélie Neuville et al.	Norway
Site Selection For Observing Stations For Operational Sustainability	Mr İsmail Temir et al.	Türkiye
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TAF Accrual Program Introduction and Working Stages	Mr Ahmet Koca	Türkiye

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The benefits of a standardised technical specification for Automatic Weather Station design and installation	Mr David Hiscock	United Kingdom
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Optimizing Placement of Weather Stations	Ms Jemimmah Awino	Kenya
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The Key Role of Meteorology in Developing The Economy	Mr Zakaria Alessa	Syria
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Analytic Platform Development for Design of Cloud Seeding	Mr JungHoon Lee et al.	Republic of Korea
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Dynamics of the transport of materials in the Congo River basin to the Atlantic Ocean	Dr Jean Bienvenu Dinga et al.	Congo
Assessment of triple system for coastal sustainability	Dr Ayman El-Gamal	Egypt
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Enhancement of Meteorological Observation Capabilities in Myanmar	Mr Wai Toe Aung	Myanmar