

Final Program

2nd Workshop CGMS International Cloud Working Group



29 October - 2 November 2018, Madison, Wisconsin, USA

Organized by the Space Science and Engineering Center of the University of Wisconsin – Madison
Financially supported by EUMETSAT and NOAA

Program Committee

*Andrew Heidinger (co-chair), Rob Roebeling (co-chair), Dong Wu (Rapporteur), and
Ralf Bennartz (local organizer)*

CGMS Advisory Panel

*Kerry Meyer (NASA, USA), Stefan Bojinski (WMO, Switzerland), Sung-Rae Chung (KMA Korea), Lu
Feng (CMA, China), Andrew Heidinger (NOAA, USA), N. Puviarasan (IMD, India), Rob Roebeling
(EUMETSAT, Germany), Alexei Rublev (Roshydromet, Russia), and Daisaku Uesawa (JMA, Japan)*



ICWG-2

Workshop program at a glance

	Day 1	Day 2	Day 3	Day 4	Day 5
Morning		Retrieval methods	Assessments	Climate applications	Final discussion
Morning	Registration	Retrieval methods	Assessments Group Photo	Climate applications	Final discussion
Afternoon	International links	Retrieval methods	Weather applications	Breakout groups	
Afternoon	Satellite programs	Poster session	Breakout groups	Microwave climatologies	
Evening	Poster reception			Conference Banquet	

Breakout groups

Wednesday

1. Retrieval methods (Bryan Baum and/or Phil Watts)
2. Cloud masking (Karl Goran Karlsson)
3. Cloud parameter assessments (Andi Walther)
4. Microwave (Ralf Bennartz and/or Dong Wu)

Thursday

1. Severe Weather (Mike Pavolonis)
2. Climate (Mike Foster)
3. Wind (Steve Wanzong and/or Dong Wu)
4. International links (Andrew Heidinger and/or Dong Wu)

ICWG-2 ORAL PROGRAM

Monday 29 October 2018

REGISTRATION AND WELCOME	
12:00	REGISTRATION
12:30	Opening <ul style="list-style-type: none">- Welcome (Ralf Bennartz)- Workshop aims (Andrew Heidinger)- Organisational matters (Maria Vasys)
INTRODUCTION	
13:00	Status and update on ICWG <i>Dong Wu</i>
	Agencies reports (~10 minutes each) <ul style="list-style-type: none">- NOAA (Andrew Heidinger)- EUMETSAT (Alessio Lattanzio)- CMA (Dr. Liujian)- KMA (Mr. Ki-Hong Park)- JMA (Dr. Ishida)- NASA (Kerry Meyer)- ESA (TBD)- IMD (Dr R.K. Giri)
15:00	COFFEE BREAK
SESSION 1: LINKS TO INTERNATIONAL ACTIVITIES	
<i>Chairperson:</i>	
15:30	Link to GSICS <i>Dave Doelling (WebEx)</i>
15:45	Highlights of the 14th IWW and the CGMS-46 <i>Steve Wanzong</i>
16:00	Link to IPWG <i>Benjamin T. Johnson</i>
16:15	Link to ITWG <i>Liam Gumley</i>
16:30	Discussion & Recommendations
17:00	POSTER RECEPTION

Tuesday 30 October 2018

SESSION 2: CLOUD PARAMETER RETRIEVAL METHODS

Chairperson: *Bryan Baum (am) and Anja Hünerbein (pm)*

08:30	Keynote: Progress and challenges in generating multi-instrument imager cloud data records: MODIS, VIIRS and AHI <i>Steve Platnick</i>
09:00	Towards Continuity in IR Absorption Radiances from MODIS and VIIRS <i>Bryan Baum</i>
09:15	Advances Cloud Radiance Simulation using the Community Radiative Transfer Model <i>Benjamin Johnson</i>
09:30	A practical way to detect and quantify the 3-D radiative effects in passive cloud property retrievals: theoretical basis and feasibility study <i>Zhibo Zhang</i>
09:45	Tuning of the NWCSAF cloud mask algorithm for the future meteorological geostationary Satellite MTG <i>Gaëlle Kerdraon</i>
10:00	COFFEE BREAK
10:30	Current status of Geo-KOMPSAT-2A Cloud Detection Algorithm in NMSC/KMA <i>Hee-Ae Kim</i>
10:45	Improvement of operational cloud products by Meteorological Satellite Center of Japan Meteorological Agency <i>Haruma Ishida</i>
11:00	Cloud property retrieval from SEVIRI and METimage at EUMETSAT <i>Philip Watts</i>
11:15	Cirrus clouds in the far infrared: some highlights from the FORUM mission Phase-A study <i>Tiziano Maestri</i>
11:30	The characterization of ice cloud properties from Himawari-8/AHI measurements <i>Husi Letu</i>
11:45	LUNCH BREAK
13:00	Investigating the sensitivity of SEVIRI liquid cloud optical properties retrieval to illumination conditions using two MSG satellites <i>Nikos Benas</i>
13:15	Cubesat mission for cloud heights and winds <i>Mike Kelly</i>
13:30	The EarthCARE Multi Spectral Imager cloud products <i>Anja Hünerbein</i>
13:45	Use of Sounder Cloud Products to Improve Imager Cloud Products and Derived Motion Vectors. <i>Andrew Heidinger</i>
14:00	CALIOP trained neural network cloud top pressure and height for imagers

	<i>Nina Håkansson</i>
14:15	A fast cloud retrieval algorithm using GOME-2 measurements of the Oxygen B-band <i>Marine Desmons</i>
14:30	COFFEE BREAK
POSTER SESSION	
<i>Chairperson: Ralf Bennartz</i>	
15:00	Poster presentations (1 slide, 1 minute)
15:30	Poster session
18:30	END OF DAY

Wednesday 31 October 2018

SESSION 3: CLOUD PARAMETER RETRIEVAL EVALUATION

Chairperson: Jerome Riedi

08:30	Keynote: Cloud Masking in Passive Imagery: Recent Advancements and Assessments Utilising CALIPSO-CALIOP Data <i>Karl Göran Karlsson</i>
09:00	Assessing the role of aerosols on marine stratiform clouds based on satellite observations <i>Seethala Chellappan</i>
09:15	Intercomparison of cloud retrievals from Himawari-8 over five issued areas <i>Hye-Sil Kim</i>
09:30	Validation of cloud top height and microphysics retrieved from meteorological geostationary satellites using NWCSAF/GEO SW <i>Hervé Le Gléau</i>
09:45	Performance of cloud amount of three satellite cloud climate data records over the Tibetan Plateau <i>Jian Liu</i>
10:00	COFFEE BREAK
10:30	Evaluating the MODIS C6 multilayer cloud detection and phase algorithms through comparisons with CALIOP and CloudSat <i>Benjamin Marchant</i>
10:45	Evaluation of Satellite Imager Ice Cloud Retrievals using CALIPSO and CloudSat Data <i>William Smith</i>
11:00	Global statistics of microphysical properties of cloud-top ice crystals <i>Bastiaan van Diedenhoven</i>
11:15	Validation of Cloud Fraction Estimates from Passive Imagers Using CALIOP Observations with Attention to the Effects of Spatial Resolution <i>Chris Yost</i>
11:30	Assessment of 3MI cloud retrieval algorithms by means of highly realistic synthetic test data <i>Jerome Riedi</i>
11:45	LUNCH BREAK

BREAKOUT SESSION

Chairperson:

13:00	Breakout Sessions Topics: (Rooms 209, 220, 325-326, 335) Retrieval Methods , Cloud Masking, Cloud Parameter Assessments, Microwave
15:00	Summary & Recommendations
15:30	COFFEE BREAK

SESSION 4: CLOUD PARAMETER DATA FOR WEATHER APPLICATIONS

Chairperson: Andi Walther

16:00	Keynote: WMO SCOPE-Nowcasting: Activities of Relevance to the ICWG
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	<i>Mike Pavolonis</i>
16:30	Analysis of Severe Storms and Aircraft Engine Icing Conditions using Multispectral Geostationary Imager Data <i>Kristopher Bedka</i>
16:45	Application of the GOES-R Series Cloud Mask to generate Clear Sky and All Sky Radiance Products for Data Assimilation <i>Sharon Nebuda</i>
17:00	Joint Polar Satellite System (JPSS) Aviation Initiative <i>Jeffrey Weinrich</i>
17:15	Cloud properties for irradiance retrievals <i>Marion Schroedter-Homscheidt</i>
17:30	On the influence of spatial and temporal resolution for retrieving solar surface irradiance from METEOSAT SEVIRI <i>Hartwig Deneke</i>
17:45	END OF DAY

Thursday 1 November 2018

SESSION 5: CLOUD PARAMETER DATA FOR CLIMATE APPLICATIONS

Chairperson: Brian Kahn

08:30	Keynote: ESA Climate Change Initiative cloud property data sets. <i>Caroline Poulsen</i>
09:00	A 38-year record of UV cloud albedo from UV sensing instruments: inter-satellite calibration, trends and response in cloudiness during El Nino events <i>Clark Weaver</i>
09:15	Cloud trends from 15 years of Atmospheric Infrared Sounder observations <i>Brian Kahn</i>
09:30	Relative radiometric calibration – Addressing a key challenge for achieving continuity of NASA cloud climate data records from Aqua-MODIS to SNPP-VIIRS <i>Kerry Meyer</i>
09:45	COFFEE BREAK
10:30	PATMOS-x version 6.0: A new cloud climatology from 37 years of global AVHRR+HIRS data <i>Mike Foster</i>
10:45	Dissecting effects of orbital drift of polar-orbiting satellites on accuracy and trends of cloud fraction climate data records <i>Jedrzej Bojanowski</i>
11:00	An assessment of the impacts of cloud vertical heterogeneity on global ice cloud records from passive satellite retrievals <i>Chenxi Wang</i>
11:15	Impacts of clouds in the generation of Climate Data Records at EUMETSAT from Meteosat within the Copernicus Climate Change Service (C3S) <i>Alessio Lattanzio</i>
11:30	Global and regional estimates of warm cloud droplet number concentration based on 13 years of AQUA-MODIS observations <i>John Rausch</i>
11:45	LUNCH BREAK

BREAKOUT SESSION

Chairperson:

13:00	Breakout Sessions Topics: <i>(Rooms 209, 220, 325-326, 335)</i> <i>Severe Weather, Climate, Wind, International Links</i>
15:00	Summary & Recommendations
15:30	COFFEE BREAK

SESSION 6: MICROWAVE

Chairperson: Dong Wu

16:00	Keynote: Microwave remote sensing of liquid clouds <i>Tom Greenwald</i>
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16:30	CLIMCAPS: Use of the AIRS/AMSU and CrIS/ATMS continuity sounding product for cloud feedback studies. <i>Chris Barnet</i>
16:45	Combined MW and NIR remote sensing of clouds. <i>Ralf Bennartz</i>
17:00	The 183 GHz Channels for Long-Term Upper-Tropospheric Cloud Ice <i>Dong Wu</i>
17:15	Floating Snow Diurnal Cycle Inferred from Global Precipitation Measurement Microwave Imager (GPM-GMI) using CloudSat as the Baseline <i>Jie Gong</i>
17:30	Cash Bar
16:30	Banquet

FRIDAY 2 November 2018

FINAL DISCUSSION

Chairperson: Andrew Heidinger and Dong Wu

08:30	Presentations of WG Algorithms
09:30	Presentations of WG Assessments
10:30	Presentations of WG Weather Applications
11:30	Presentations of WG Climate Applications
12:30	Final Plenary Discussion & Wrap-up
13:00	DEPARTURE

ICWG-2 POSTER PROGRAM

New Methods for Improving the Characterization of Cloud Properties and Vertical Structure from Satellite Imager Data

Sarah Bedka, W. L. Smith Jr., P. Minnis, S. Sun-Mack, R. Palikonda

Error Characterization and Validation of Atmospheric Motion Vectors Derived from the GOES-16 Advanced Baseline Imager (ABI)

Jaime Daniels, Andrew Bailey, Wayne Bresky, Americo Allegrino, Steve Wanzong, Chris Velden

The MODIS-VIIRS Cloud Mask (MVCM)

Richard Frey, Steve Ackerman, Robert Holz, Steve Dutcher

Infrared Cloud Phase and Height Continuity Products between MODIS and VIIRS

Yue Li, Andrew Heidinger, Steven Platnick, Robert Holz, Steve Ackerman, Kerry Meyer

High-Resolution Radar–GOES Satellite–Lightning Field Importance Analysis for Diagnosing and Nowcasting Severe Storms

John R. Mecikalski, Thae N. Sandmael, Elisa M. Murillo, Cameron R. Homeyer, Kris M. Bedka, Jason M. Apke, Chris P. Jewett

Hemispheric Cloud and Moisture Exchanges seen in HIRS Measurements

W. Paul Menzel, Eva Borbas, Richard Frey, Bryan Baum, Geoff Cureton, and Nick Bearson

Upper Tropospheric Cloud Properties and Their Variability with the El Niño Southern Oscillation

Ethan Nelson, Paul Menzel, Richard Frey

Global GEOsat Cloud and Surface Temperature Datasets for Climate Monitoring and Nowcasting Applications from the NASA LaRC SatCORPS

R. Palikonda, William L. Smith Jr., P. Minnis, Sarah Bedka, Gang Hong, Kris Bedka, Ben Scarino, Chris Yost, Qing Z. Trepte, Douglas A. Spangenberg

Retrieval of Cloud Amount from Himawari-8 observation using Machine Learning

Ki-Hong Park, Hwan-Woo Lee, Geun-Hyeok Ryu, Eun-Ha Sohn, and Jae-Dong Jang

JPSS Enterprise Algorithms Migration to CSPP

Bonnie Reed

Cloud Fraction in the Dark Target product for MODIS and VIIRS

Virginia Sawyer, Robert Levy, Shana Mattoo, Geoff Cureton, Yingxi Shi

Performance of the Optimal Cloud Analysis (OCA) algorithm on MODIS measurements

Loredana Spezzi, Philip Watts, John Jackson

Future Development of the Scattering Properties of the Community Radiative Transfer Model

Patrick Stegmann, Benjamin Johnson

Evaluation of Cloud Detection Biases in Geostationary Satellites using CALIPSO Data

Qing Trepte, Patrick Minnis, Christopher R. Yost, William Smith Jr., Rabi Palikonda, Sarah Bedka

A new machine learning based cloud phase discrimination algorithm designed for passive infrared satellite sensors

Chenxi Wang, Steven E. Platnick, Kerry Meyer

Generating Sounder Products at Imager Spatial and Temporal Resolution

Elisabeth Weisz, W. P. Menzel, E. Borbas, B. A. Baum

Validation of the new cloud optical and microphysical properties retrieval algorithm for the South Korea stationary satellite (GK-2A).

Yiseok Isaac Yang, Seong Soo Yum, and Junshik Um.