

Program

Cloud Retrieval Evaluation Workshop-4 (CREW-4)

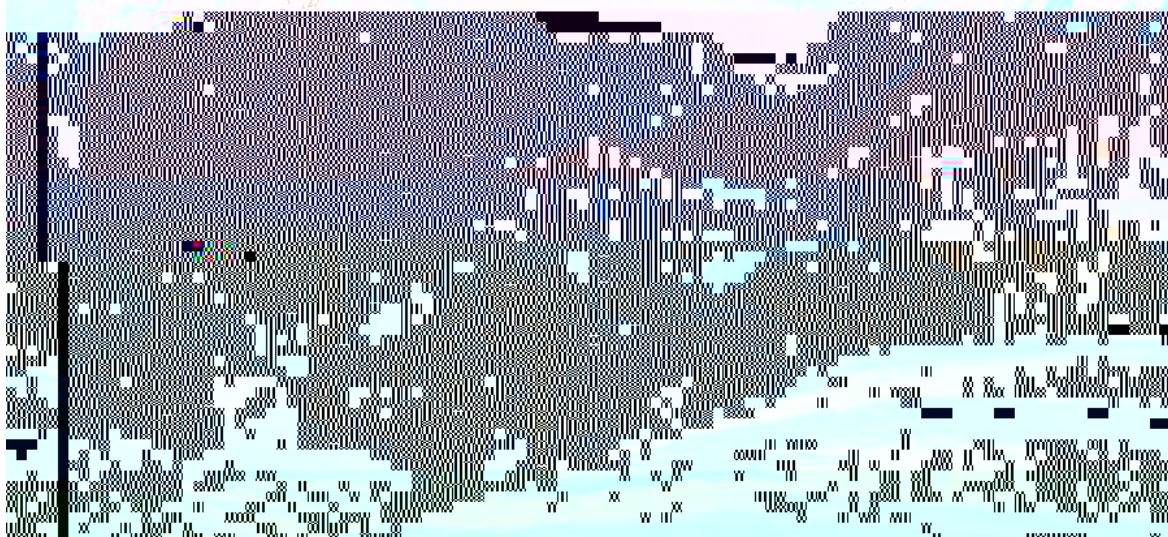


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4-7 March 2014, Grainau, Germany, Europe

Organized by Deutscher Wetterdienst. Financially supported by EUMETSAT, the European Space Agency through the ESA Cloud CCI project, the CM SAF project, and Deutscher Wetterdienst

Program Committee

Bryan Baum (co-chair), Rob Roebeling (co-chair), Ralf Bennartz, Ulrich Hamann, Andrew Heidinger, Jan Fokke Meirink, Martin Stengel, Andi Walther, Phil Watts, and Anke Thoss



07:30 Registration

08:30 Opening

- Welcome & Workshop aims (Bryan Baum)
- Organisational matters (Martin Stengel)

Sub-Topic 1.1 Existing retrieval methods

Chairperson: Caroline Poulsen

08:45 Keynote: Overview of combined retrievals from active instruments

Robin Hogan

09:15 The MODIS cloud optical and microphysical property product: Overview of the Collection 6 algorithm and preliminary results

Steve Platnick et al. (presenter Kerry Meyer)

09:30 The Community Cloud Optimal Estimation Retrieval for Climate (CC4CL): Retrieval System and Application to AVHRR and MODIS sensors

M. Jerg et al., and the ESA Cloud CCI team

09:45 Enhancing the PPS cloud mask confidence in the polar night with the VIIRS Day-Night band

Adam Dybbroe and Ronald Scheirer

10:00 Cloud and Radiation Parameter Retrievals from Satellites Using Updated NASA Langley Algorithms

Patrick Minnis

10:15 COFFEE BREAK

Sub-Topic 1.2 New methods

Chairperson: Patrick Minnis

10:45 Application of a Spectrally Consistent Multichannel Adiabatic Retrieval to the MODIS Cloud Product

John Rausch et al.

11:00 Cloud optical properties of multilayer clouds from solar and thermal SEVIRI channels

Luce Bugliaro

11:15 Retrieving cloud microphysical properties in a fully 3D environment using active and passive sensors

Mark Fielding

11:30 MODIS Cloud Thermodynamic Phase Discrimination for Collection 6 and Comparisons with CALIOP and POLDER.

Benjamin Marchant

11:45 A Methodology for Simultaneous Retrieval of Ice and Liquid Water Cloud Properties
O. Sourdeval et al.

12:00 LUNCH BREAK

Sub-Topic 1.3 New sensors

Chairperson: Jerome Riedi

13:00 Keynote: Overview on cloud retrievals from passive sensors
Ralf Bennartz

13:15 Combining vertical resolved ground observations and geostationary satellite observations by use of a forward model approach
Anja Hünerbein et al.

13:30 Evaluation of cloud products for Himawari-8/-9
Kazuki Shimoji et al.

13:45 A Simultaneous Cloud-Atmosphere-Surface Retrieval Algorithm Using Hyperspectral Data
Xu Liu et al. (presenter Nadia Smith)

14:00 South Korea's geostationary satellite cloud retrievals: current status and plans for GK-2A in 2017
Yong-Sang Choi et al.

14:15 COFFEE BREAK

14:45 BREAKOUT SESSIONS TOPIC 1

Breakout Session Topics:

- A) Calibration requirements and way forward
- B) Cloud modelling issues for retrievals
- C) Strength and weaknesses of the retrieval approaches
- D) Synergistic retrievals

16:15 Summary & Recommendations

18:00 ICE BREAKER (sponsored by CM SAF)

Sub-Topic 2.1 Retrieval evaluations

Chairperson: Robin Hogan

08:30 **Keynote:** Inter-comparison of cloud observations from CALIOP and passive sensors

Dave Winker

09:00 Extension of the CREW-type Analysis to VIIRS

Andrew Heidinger

09:15 CREW: Update on the evaluation of SEVIRI cloud parameter retrievals

Ulrich Hamann et al.

09:30 The inter-comparison of cloud properties retrieved from AVHRR and MODIS using three state-of-the-art retrieval schemes

Martin Stengel et al.

09:45 Validation of SEVIRI cloud top height retrievals from A-Train data

Chu-Yong Chung et al.

10:00 **COFFEE BREAK**

Chairperson: Takashi Nakajima

10:30 **Keynote:** Geometric cloud height assignment by Geosynchronous meteorological satellite - simulation and bias analysis

Feng Lu

11:00 Retrieval and validation of cloud properties from the AATSR instrument

Caroline Poulsen et al.

11:15 A Review of Cloud Property Retrievals over Snow and Sea-ice Surfaces

Andi Walther and Andrew Heidinger

11:30 Towards characterizing the uncertainty of in-situ cloud observations: A case study for the ESA CCI Cloud project validating satellite-based cloud amount in mountain and Polar Regions

J drzej S. Bojanowski and Reto Stöckli

11:45 Comparing OCA and DARDAR upper layer COT in multi-layer situations

Phil Watts

12:00 UW-Atmospheric PEATE cloud evaluation capabilities: resolving cirrus optical thickness retrieval differences between solar reflectance, IR, and CALIOP observations

Robert Holz et al.

12:15 **LUNCH BREAK**

13:15 BREAKOUT SESSIONS TOPIC 2

Breakout Sessions Topics:

- A) Validation sources and best-practises
- B) Inter-comparison and validation cloud parameters
- C) Uncertainty estimate assessments
- D) Retrievals over snow and sea ice

15:00 COFFEE BREAK

15:30 Summary & Recommendations

Chairperson: Rob Roebeling

16:00 POSTER PRESENTATIONS (1 slides, appr. 1 min per poster)

16:15 POSTER SESSION

18:30 END OF DAY 2

Sub-Topic 3.1 Now casting applications

Chairperson: Anke Thoss

- 08:30 Keynote:** Cloud retrievals for severe weather forecasts
Daniel Rosenfeld
- 09:00** SAFNWC/MSG cloud products
M. Derrien et al.
- 09:15** Cloud properties retrieved from passive imagers and application to the shortwave flux estimation, regarding renewable energy
Takashi Nakajima et al.
- 09:30** New Methods to Infer Aircraft Icing Conditions from Satellite Cloud Retrievals
William L. Smith Jr. et al.
- 09:45** Impact of Smoke on Ice Cloud Properties in Geostationary Data
Bryan Baum and Andrew Heidinger
- 10:00 COFFEE BREAK**
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Sub-Topic 4.1 Medium and long-term cloud climatologies

Chairperson: Martin Stengel

- 10:30 Keynote:** What did we learn from the GEWEX Cloud Assessment
Claudia Stubenrauch, S. Kinne and GEWEX Cloud Assessment Team
- 11:00** Evaluation of cloud optical and microphysical property observations in the CLAAS dataset
Jan Fokke Meirink et al.
- 11:15** Ten Year Time Series of High Cloud Frequencies from HIRS and MODIS
Richard Frey and W. Paul Menzel
- 11:30** ESA Climate Change Initiative: Evaluation of the FAME-C cloud properties for the years 2007-2009
Cintia Carbajal Henken et al.
- 11:45 A comparison of NOAA/AVHRR derived cloud amount with MODIS and surface observation data**
Liu Jian Yang Xiaofeng Cuipeng
- 12:00 LUNCH BREAK**
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Sub-Topic 4.2 Aggregation methods and cloud data analysis

Chairperson: Ralf Bennartz

- 13:30** **Keynote:** Aggregation methods and their uncertainties
Nadia Smith et al.
- 14:00** Extending error characterization of cloud masking: Exploring the validity and usefulness of the Naïve Bayesian probabilistic cloud masking method
Karl-Göran Karlsson
- 14:15** The cloud cover vertical distribution and its diurnal cycle observed from Multi-Geostationary data
Genevieve Seze
- 14:30** An assessment of cloud liquid water path and droplet number concentration retrievals derived from MODIS-like observations: Comparison with large-eddy simulation and implications for aerosol indirect effect study
Daniel Miller and Zhibo Zhang
- 14:45**
Kerry Meyer et al.
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15:00 **COFFEE BREAK**

15:30 **BREAKOUT SESSIONS TOPIC 3 & 4**

Breakout Session Topics:

- A) Severe Weather Applications
- B) Aggregation Methods
- C) Inter-comparison of cloud property datasets, how to move on after the GEWEX CA, including new datasets and views
- D) How to improve outreach to the climate and weather community

17:00 **Summary & Recommendations**

18:00 **END OF DAY 3**

Sub-Topic 4.3 Climate Model Analysis

Chairperson: Bryan Baum

- 09:00 Keynote:** How to prepare satellite-based cloud information for use by modelers
Robert Pincus
- 09:30 Towards Traceable and Uniform Climate Data Records
Rob Roebeling
- 10:00 COFFEE BREAK**
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Chairpersons: Bryan Baum and Rob Roebeling

- 10:30 Presentations of WG Cloud parameter retrieval methods**
- 10:45 Presentations of WG Cloud parameter retrieval evaluations**
- 11:00 Presentations of WG Severe weather applications**
- 11:15 Presentations of WG Improving cloud parameter datasets**
- 11: 30 Final Plenary Discussion**
- 12:00 Summary of Decisions, Actions, and Recommendations**
(Appointment of sub-working group chairs, etc)
- 13:00 DEPARTURE**
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The determination of cloud top height using hyperspectral measurements in the oxygen A-band

A. A. Kokhanovsky, V. V. Rozanov, L. Lelli, M. Vountas, J. P. Burrows

Multi-layered Cloud Parameter Retrievals: Developments and Improvements Using Passive Satellite Observations

Fu-Lung Chang, Patrick Minnis, Rabindra Palikonda, Sunny Sun-Mack, Yan Chen, Mandana Khaiyer, Douglas Spangenberg, and Christopher Yost

Climate Change in Ethiopia

Habtamu Adugna

SEVIRI Cloud Product Collection 6 Updates

Galina Wind, Jerome Riedi, Steven Platnick, Andrew Heidinger

The location of inversion boundary layer clouds

Sauli Joro, Phil Watts, Hans-Joachim Lutz

The CM SAF climate data records of cloud properties

M. Stengel, K.-G. Karlsson, J.F. Meirink

Evaluation results of the optimal estimation based, multi-sensor cloud property data sets derived from AVHRR heritage measurements in the Cloud_cci project.

S. Stapelberg, M. Jerg, M. Stengel, R. Hollmann and the ESA Cloud CCI team

Recent improvements to the KNMI Cloud Physical Properties algorithm

Gerd-Jan van Zadelhoff, Jan Fokke Meirink

Update of the SEVIRI scene identification within the GERB processing for Ed. 2

Ipe A, E. Baudrez, N. Clerbaux, I. Decoster, S. Nevens, A. Velzaquez Blazquez

Improvements in the Optimal Retrieval of Aerosol and Clouds (ORAC) system: Cloud-top correction for infrared measurements

Greg McGarragh, Don Grainger, Caroline Poulsen, Gareth Thomas, Adam Povey

Retrieval of Cloud Optical Properties and Their Application to Examinations of Cloud Life-Cycles

Jennifer Slobodda, Rene Preusker, Jürgen Fischer

Inter-comparison of cloud parameters between COMS and MODIS

Haklim Choi, Eunha Son, Eun-Jeong Cha

DECADAL CLOUD TRENDS AS MEASURED BY THREE GENERATIONS OF HYPER SPECTRAL INFRARED SOUNDERS, AIRS, IASI and CrIS

Nadia Smith, Elisabeth Weisz, Paul Menzel, Bryan Baum

Evaluation of Level-3 aggregation methods

Theo Steenbergen and Rob Roebeling

Information content analysis on cloud microphysics parameters from measurements of the future Multi-viewing, Multichannel, Multi-polarisation Instrument (3MI)

Guillaume Merlin, Jérôme Riedi, Laurent Labonnote, Céline Cornet

Version 27 January 2014

Detection of multi-layer cloud cases from SEVIRI

Hans Joachim Lutz

Introduction of the Optimal Cloud Analysis for Himawari-8/9

Masahiro Hayashi

Diurnal cycles of linear contrail coverage, cirrus coverage, and outgoing longwave radiation in the North Atlantic flight corridor derived from MSG and compared with MODIS

Kaspar Graf, Ulrich Schumann, David Duda, Pat Minnis

NWCSAF PPS package v 2014: updates and preliminary validation results

Anke Thoss, Nina Håkansson, Adam Dybbroe, Ronald Scheirer, Sara Hörnquist, Karl-Göran Karlsson, Jan-Fokke Meirink

How much independent cloud information's could be measured with OLCI's Oxygen A band channels?

André Hollstein and Jürgen Fischer