

2nd European Nowcasting Conference

3 - 5 May 2017, Headquarters of DWD, Offenbach, Germany

Wednesday, 3 May 2017

08:30 - 09:00 **Registration**

Session chair: Kathrin Wapler

09:00 - 09:20 **Welcome addresses**

Hans-Joachim Koppert, *Head of Business Area Weather Forecasting Service, DWD*
Dick Blaauboer, *Forecasting Programme Manager, EUMETNET*

09:20 - 09:40 **The importance of nowcasting in the WMO WWRP strategy**

Estelle de Coning
WMO

09:40 - 10:00 **The EUMETNET ASIST project**

Meiold-Mautner, Ingo; Wang, Yong; Bañón, Luis; de Haan, Siebren; Kann, Alexander; Gundersen, Paul; Simon, André
ZAMG - Zentralanstalt für Meteorologie und Geodynamik

10:00 - 10:20 **Use of Applications in Nowcasting and Very Short Range Forecasting in Europe – a Study within the Framework of the EUMETNET ASIST Project**

André Simon, Paul Gundersen (Met Office), Mihály Szucs, Máté Mile
Hungarian Meteorological Service

10:20 - 10:30 **Introduction to the ENC**

Kathrin Wapler
Deutscher Wetterdienst

10:40 - 11:10 **Coffee break**

OBSERVATIONS AS BASIS FOR NOWCASTING

Session chair: Dirk Heizenreder

11:10 - 11:30 **Radar data - processing and their application in thunderstorm nowcasting at ZAMG**

Tüchler, Lukas; Meyer, Vera
ZAMG - Zentralanstalt für Meteorologie und Geodynamik

11:30 - 11:50 **Potential uses of the SESAR 3D Radar Reflectivity Mosaic for Aviation**

Applications in UK Airspace
Robert Scovell, Katie Brown
Met Office

11:50 - 12:10 **Prediction of Observation Uncertainty using Data Assimilation in an Ensemble-Nowcasting System**

Claire Merker, Felix Ament, Marco Clemens
Universität Hamburg, Meteorologisches Institut

12:10 - 12:30 **Aircraft Moisture Observations: Their importance in Nowcasting and NWP**

Ralph Petersen (UW-CIMSS), Brett Hoover, Anne-Sophie Daloz, Lee Cronce, Tim Wagner, Skyler Williams (all UW-CIMSS), Richard Mamrosh (NWS), Randy Baker (UPS), Patricia Pauley, and Nancy Baker (NRL)
University of Wisconsin-Madison, SSEC/CIMSS (UW-CIMSS)

12:30 - 12:50 **Overview of the posters**

The poster presenters



12:50 - 13:50 **Lunch break**

Session chair: Manuel Werner

13:50 - 14:10 **Potential of the Lightning Mapping Array for the Nowcasting of Severe Weather**
Albert Salvador, Joan Montanyà, Nicolau Pineda, Gloria Solà and Oscar van der Velde

Servei Meteorològic de Catalunya

14:10 - 14:30 **Lightning characteristics during hailstorms**

Petra Mikus Jurkovic, Natasa Strelec Mahovic

Meteorological and Hydrological Service of Croatia (DHMZ)

14:30 - 14:50 **Multi-sensor insight into severe convective events: potential for improving the nowcasting of hailstorms**

Kathrin Wapler

Deutscher Wetterdienst

14:50 - 15:10 **Convective storm nowcasting by remote sensing data combination**

Michaela Valachová, Petra Sýkorová

Czech Hydrometeorological Institute

15:10 - 15:30 **Convective growth and glaciation with Meteosat in relation to precipitation formation**

Senf, Fabian; Deneke, Hartwig

Leibniz Institute for tropospheric Research, TROPOS

15:30 - 16:10 **Coffee break & Poster viewing**

Session chair: Katja Hungershöfer

16:10 - 16:30 **Validation of the satellite-based Thunderstorm Detection and Nowcasting System Cb-global with IAGOS Onboard Measurements**

C. Forster, A. Tafferner, D. Stich, A. Petzold, K. Beswick

Deutsches Zentrum für Luft- und Raumfahrt (DLR), Institut für Physik der Atmosphäre

16:30 - 16:50 **A novel multispectral algorithm for the detection, tracking and nowcasting of the thunderstorms using the Meteosat Second Generation images**

Michele de Rosa, Matteo Picchiani, Massimiliano Sist, Fabio Del Frate

GEO-K s.r.l.

16:50 - 17:10 **SATICUS - A novel approach for the detection and short-term forecast of thunderstorms.**

Richard Müller, T. Leppelt, K. Hungershöfer, J. Asmus, M. Jerg, S. Haussler

Deutscher Wetterdienst

17:10 - 17:30 **Improving Satellite-based Convective Weather Nowcasts by coupling short-range GOES-R Legacy Sounding NearCasts to Convective Initiation Products**

Ralph Petersen (UW-CIMSS), Lee Counce (UW-CIMSS), John Mecikalski (University of Alabama in Huntsville, UAH) and Chris Jewett (UAH)

University of Wisconsin-Madison, SSEC/CIMSS (UW-CIMSS)

17:30 - 17:50 **Discussion on Observations as basis for Nowcasting**
(Moderator: Dirk Heizenreder)

18:00 - 20:00 **Icebreaker**

Thursday, 4 May 2017

NOWCASTING TECHNICS AND SYSTEMS

Session chair: Luiz Banon

- 09:00 - 09:20 **The Nowcasting SAF (NWC SAF): products and user services. Current Status and future plans.**
Pilar Rípodas, Xavier Calbet
AEMET Agencia Estatal de Meteorología
- 09:20 - 09:40 **The Nowcasting SAF (NWC SAF), examples of operational use of products in nowcasting**
Javier García Pereda
AEMET (Agencia Estatal de Meteorología - Spanish National Weather Service)
- 09:40 - 10:00 **Nowcasting of thunderstorms and severe convection in Switzerland**
Ulrich Hamann, Elena Leonarduzzi, Lorenzo Clementi, Alessandro M. Hering, Luca Nisi, Marco Sassi, Urs Germann
Swiss Federal Office of Meteorology and Climatology MeteoSwiss
- 10:00 - 10:20 **Nowcasting activities at the Royal Meteorological Institute of Belgium**
Maarten Reyniers, Lesley De Cruz, Laurent Delobbe, Loris Foresti
Royal Meteorological Institute of Belgium
- 10:20 - 10:40 **Lightning Jump as an operational nowcasting tool at the Meteorological Service of Catalonia**
Carme Farnell, Tomeu Rigo, Nicolau Pineda
Meteorological Service of Catalonia

10:40 - 11:10 Coffee break

Session chair: Alexander Kann

- 11:10 - 11:30 **Utilization of radar reflectivity cores characteristics in the Czech Hydrometeorological Institute**
Hana Kyznarova, Petr Novak
Czech Hydrometeorological Institute
- 11:30 - 11:50 **KONRAD3D: A new tool for detection and nowcasting of convective cells at DWD**
Manuel Werner
Deutscher Wetterdienst
- 11:50 - 12:10 **NowCastMIX – automatic warnings and feature tracking from continuously monitored nowcasting systems based on optimally clustered fuzzy-logic assessments of storm attributes**
P. M. James, B. K. Reichert, D. Heizenreder
Deutscher Wetterdienst
- 12:10 - 12:30 **Nowcast of lightning as a blend of probabilistic data.**
Moseley, Stephen
Met Office
- 12:30 - 12:50 **NOWPAL: nowcasting precipitation accumulations**
Matteo Buzzi, Luca Panziera, Marco Boscacci and Marco Gaia
MeteoSwiss

12:50 - 13:50 **Lunch break**

Session chair: Matteo Buzzi

13:50 - 14:10 **A probabilistic INCA based on error statistics.**

Atencia, Aitor; Kann, Alexander; Tüchler, Lukas; Wang, Yong
ZAMG - Zentralanstalt für Meteorologie und Geodynamik

14:10 - 14:30 **Nowcasting of winter weather with INCA**

Alexander Kann, Benedikt Bica, Jasmina Hadzimustafic, Yong Wang
Zentralanstalt für Meteorologie und Geodynamik

14:30 - 14:50 **Hybrid human expert and machine-based thunderstorm warnings: a novel operational nowcasting system for severe weather at MeteoSwiss**

M. Gaia, G. Della Bruna, A. Hering, D. Nerini, V. Ortelli
MeteoSwiss

14:50 - 15:10 **AWI, the Post-Processing tool for nowcasting and very short-range forecasting of the Italian Air Force Meteorological Centre**

Marco Alemanno, Lucio Torrisi, Antonio Vocino, Francesca Marcucci
Italian Air Force Meteorological Centre

15:10 - 15:30 **Discussion on Nowcasting technics and systems**

(Moderators: Matteo Buzzi, Alexander Kann)

15:30 - 16:10 **Coffee break & Poster viewing**

APPLICATION, USER ASPECTS AND VERIFICATION

Session chair: André Simon

16:10 - 16:30 **Using vertical integrated liquid/ice, rotation and lightning density tracks for operational severe weather warnings**

Christian Herold, Adrian Leyser, Sebastian Schappert, Thomas Hengstebeck, Michael Mott, Kathrin Wapler
Deutscher Wetterdienst

16:30 - 16:50 **"No one will go and hold or tie a tree!" Severe weather situations from an emergency services perspective**

Thomas Kox
Freie Universität Berlin

16:50 - 17:10 **Outcome of the first Nowcasting Satellite Application Facility (SAF) Testbed**

Xavier Calbet, Pilar Ripodas
AEMET

17:10 - 17:30 **Evaluation of Nowcast Systems at the ESSL Testbed since 2012**

Pieter Groenemeijer, Alois M. Holzer, Tomas Pucik
European Severe Storms Laboratory - Science and Training

17:30 - 17:50 **Discussion on Application, user aspects and verification**

(Moderators: André Simon, Marcus Paulat)

Friday, 5 May 2017

COMBINATION OF NWP AND NOWCASTING

Introduction: Prof. Dr. Sarah Jones, Head of Business Area Research and Development, DWD

Session chair: Ulrich Blahak

- 08:30 - 08:50 **Assimilation of GNSS slant information for NWP and numerical Nowcasting**
Siebren de Haan
KNMI
- 08:50 - 09:10 **Very short-range NWP forecasts initialised with STMAS and WRFDA analyses: an evaluation during the convective season**
Jordi Mercader-Carbó, Jordi Moré, Eloi Dalmasso, Abdelmalik Sairouni
Servei Meteorològic de Catalunya
- 09:10 - 09:30 **NWP-supported Nowcasting at IMWM**
Andrzej Mazur, Andrzej Wyszogrodzki
Institute of Meteorology and Water Management - National Research Institute
- 09:30 - 09:50 **LAPS nowcasting – Development and evaluation**
Petros Katsafados, Spyrou C., V.M. Nomikou, A. Papadopoulos
Department of Geography, Harokopion University of Athens
- 09:50 - 10:10 **Nowcasting with hourly AROME NWP model in Austria**
Florian Meier, Yong Wang, Christoph Wittmann, Mirela Pietrisi
Zentralanstalt für Meteorologie und Geodynamik (ZAMG)
- 10:10 - 10:30 **Seamless probabilistic Analysis and Prediction in very High Resolution (SAPHIR)**
Wang, Yong; Kann; Atencia; Awan; Kemetmüller; Meier; Lang; Schicker; Tüchler; Wastl; Wittmann
ZAMG
- 10:30 - 11:00 **Coffee break**
- Session chair: Yong Wang*
- 11:00 - 11:20 **Nowcasting MOS**
Knüpffer, Klaus; Hoffmann, Jan (Geometix GmbH Science & Solutions)
Meteo Service weather research GmbH
- 11:20 - 11:40 **A discussion on the problems of blending rainfall data**
Moseley, Stephen; Friedrich, Martina; Scovell, Robert
Met Office
- 11:40 - 12:00 **An alternative point of view of some ASIST key elements**
Luis Bañon
AEMET
- 12:00 - 12:20 **Discussion on Combination of NWP and Nowcasting**
(Moderator: Yong Wang)
- 12:20 - 12:40 **Closing session**
- 12.40 - 13.30 *Lunch break*
- 13.30 - 15.00 *ASIST Expert Team Meeting*

POSTERS:

- P1. Use of nowcasting data for the issue of weather warnings at Deutscher Wetterdienst**
Tim Böhme
Deutscher Wetterdienst
- P2. SPECMAGIC_NOW - A fast and accurate method for the calculation and forecast of solar surface irradiance**
Richard Müller, K. Hungershöfer, T. Leppelt, J. Asmus
Deutscher Wetterdienst
- P3. Real-time satellite data processing at DWD using PyTroll**
Katja Hungershöfer, Jörg Asmus, Christian Kliche, Thomas Leppelt, Richard Müller, Dirk Heizenreder
Deutscher Wetterdienst
- P4. Multi-Sensor convection detection for automatic METAR reports using radar, satellite and lightning data**
Thomas Schubert
Deutscher Wetterdienst
- P5. Radar based analysis of convective storms using mesocyclone detection and composite track products**
Thomas Hengstebeck, Dirk Heizenreder
Deutscher Wetterdienst
- P6. Nowcasting of Thunderstorms with High-Quality 3D Lightning Data**
Matthias Möhrlein, Silvia Riso, Jakob Kohl, Hans-Dieter Betz
nowcast GmbH
- ~~**P7. High-Resolution Numerical Modeling of a distinct weather event, Cold Surges over the Northern South China Sea - Cancelled**~~
- P8. Development of a new seamless prediction system for very short range convective-scale forecasting at DWD**
Ulrich Blahak, Roland Potthast, Kathrin Wapler, Axel Seifert, Alberto De Lozar, Elisabeth Bauernschubert
Deutscher Wetterdienst
- P9. Project WEXICOM - Weather warnings: from EXtreme event Information to COMmunication and action**
Thomas Kox, Tobias Pardowitz, Nadine Fleischhut, Martin Göber
Freie Universität Berlin