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# WELCOME

**Dear participants,** welcome to the EMS Annual Meeting and the European Conference on Applications of Meteorology (ECAM) 2015 in Sofia.

High impact weather and hydrological hazards: from observation to impact mitigation.

Under this year's conference theme ECAM explores the end-to-end process of modern weather and flood risk forecasting.

The considerable socio-economic costs of severe weather and its impacts across Europe each year are increasingly apparent. The benefits of effective forecasting and warning are clear and quantifiable: lives are saved, communities are protected, and governments and businesses can take action to manage and mitigate risks.

## Conference programme

You will notice that a new programme group "Measurements and Observations" has been established, to reflect the changing needs of society for observations and establish a forum for discussions how they can be met in the future.

The programme also includes new sessions in most other programme groups: the first open call for session proposals has resulted in eight new sessions. This approach will be continued in future, the EMS and partner conferences will be open to larger projects and communities as a forum for their meetings.

Both, oral and poster presentations are important for the conference – they offer diverse opportunities for discussions and presentation of the authors' work. This year distinct time slots are scheduled for short poster introductions of each session.

The winner of the Outstanding Poster Award will be announced on Friday at lunchtime, but the prize will be awarded at the next Annual Meeting 2016 in Trieste.

Detailed information about the session programme is also available online, on the USB stick and through the app for mobile devices.

## The Great Debate: Big Data in Meteorology

Big Data - is it real or is it hype? To explore the opportunities and challenges of "Big Data" for meteorological applications as well as the risks, questions such as:

- How do we ensure that the right information is used in the forecasting process?
- Can it improve our analyses and nowcasts?
- How can we be sure that forecasters and decision-makers can identify and have access to the most relevant data?

will be the focus of a plenary discussion.

## The exhibition – use the opportunity

The conference will also feature a small exhibition of commercial companies involving manufacturers of meteorological instruments and the American Meteorological Society. It will be open from Monday lunchtime to Thursday afternoon and we hope you will make use of the opportunity to inform yourself on new developments and plans of these organisations.

## Awards

During a special ceremony on Tuesday a number of awards will be handed over, including the new EMS Outstanding Contribution Award and four Young Scientist Travel Awards. Other bodies have decided to make use of this forum for their own awards scheme: The EMS Tromp Award and the Harry Otten Prize will also be presented.

The EMS Silver Medal will be presented and the Laureate Anton Eliassen will then give the Silver Medal Lecture "Meteorology and Society: Air pollution, weather forecasting and free data".

## Side meetings – Networking – Social programme

Side meetings, the sessions and the social programme that includes the icebreaker, coffee breaks and the closing ceremony, will provide many opportunities for networking at the conference. Make ample use of these – this is the *raison d'être* of the meetings.

## Thank you

We are grateful to all who have contributed to make this meeting in Sofia a reality – the local organisers, the EMS Member Societies and Associates, the Copernicus organisation, the exhibitors.

To build the session programme would not have been possible without the work of the convenors who developed and promoted the sessions. Sincere thanks to all of them for their commitment and hard work! We are also grateful to the Programme and Science Committee (PSC) for having devised a very interesting programme and hope you will enjoy and benefit from the wealth of research, results and applications that will be presented and discussed during the week.

## Feedback

As in previous years you will be invited to give feedback on all aspects of the conference. The PSC appreciates your comments and where ever possible tries to act and further develop the meetings.

Welcome again, and we hope you will have a very interesting week in Sofia.

**Horst Böttger**  
EMS President

**Hristomir Branzov**  
NIMH-BAS Director

**Ekaterina Batchvarova**  
BMS President

**Paulina Valtchanova**  
AMC President

**Georgi Peev**  
BULATSA Director  
General

## General information

### Location and conference address

The 15th EMS Annual Meeting & the 12th European Conference on Applications of Meteorology (ECAM) are held jointly in Sofia, Bulgaria from 07 to 11 September 2015.

The conference is organised jointly by the European Meteorological Society (EMS), EUMETNET, BMS, AMC and National Institute of Meteorology and Hydrology (NIMH-BAS).

### Venue

Hotel Marinela Sofia  
James Bourchier Boulevard 100  
1407 Sofia, Bulgaria

### Rules of conduct

- Smoking is prohibited in the conference centre.
- It is prohibited to copy any presentation from the desktops in the lecture rooms.
- Please switch off any mobile phones or set in mute mode during the sessions.
- Please note that video-graphic recordings are not allowed.

### Official language

The official language of the conference is English. Simultaneous interpretation is not provided. It is therefore expected that authors are able to present their research in the English language.

### Insurances

The organisers cannot accept liability for personal accident, loss or damage to private property, which may be incurred as a result of the participation in the conference. Participants are, therefore, advised to arrange appropriate insurance cover. This should extend not only to travel but also to cancellation costs.

## Local transportation information

### Central bus station

Sofia's international bus station is adjacent to the main railway station.

### Public transport

Two metro lines intersect in the city centre at the Serdika stop. Line 1 runs from the East (Sofia Airport) to the West (Obelya), via the city centre while line 2 runs from South (conference hotel, stop "James Bourchier") to North (Obelya). The underground is clean and efficient, though it does get crowded at peak times. Tickets cost one Bulgarian Lev (BGN) and can be bought from the ticket machines at the entrance to the stations. Bus, trolley bus and tram tickets must be bought from kiosks prior to boarding and validated on the bus or tram. Look for the punching devices on the wall. Insert ticket and punch. Many trams and trolley buses now have ticket machines at the front, where you can buy a ticket that does not need punching. The ticket is only valid for the journey on

that particular tram/bus so if you change you will need to punch a new ticket. One ticket costs 1 BGN. It is valid for the metro, busses, trams etc. as well. Week tickets are not available. The fine for not having a ticket is 10 BGN and is payable on the spot.

### Taxis

A taxi costs around €5 from the city centre to the hotel and around €15 from the airport to the hotel. Fares per kilometre are displayed on a small piece of paper on the taxi window and any price is legal if written. You need to see it before you enter; Entering the taxi means that you agree with the price. The fees vary between 0.79–4.99 BGN (€0.40–€2.50) per km.

OK Supertrans prices and average taxi prices:

- Initial tax 0.70 BGN or €0.35
- During day time (06:00–22:00): 0.79 BGN/km or €0.40
- During night time (22:00–06:00): 0.90 BGN/km or €0.46
- While standing: 0.22 BGN/minute or €0.11

OK SUPERTRANS: tel. (+359) 2 973 21 21.

TAXI-S-EXPRESS: tel. (+359) 2 9 12 80.

YELLOW: tel. (+359) 2 91 119.

## Wireless network access

Participants have free WiFi access in the conference area. A password is not required.

## Registration & information desk

The registration & information desk is located in the foyer of the hotel conference area.

### Opening hours

Sunday, 06 September 2015  
15:00–18:00

Monday – Thursday, 07–10 September 2015  
08:00–18:00

Friday, 11 September 2015  
08:00–10:00

## Registration & abstract management

Copernicus Meetings  
Bahnhofsallee 1e  
37081 Göttingen, Germany  
Phone: +49-551-900339-20  
meetings@copernicus.org  
www.copernicus.org

## EMS Sustainable Meetings Policy

The EMS Council at its Session in March 2015 approved the EMS Sustainable Meetings Policy, which includes actions as well as recommendations for collaborating organisations and participants. It covers a variety of areas

such as travel activities with their impact on the climate, consumption of resources (energy, water, paper etc.) and considerations about reduction and minimisation of waste. For details on actions and recommendations consult:

<http://www.emetsoc.org/meetings-events/ems-annual-meetings/sustainable-meetings>.

Specifically, this programme book has been printed on recycled paper; the lanyard is made of bamboo fibre (no PET) along with a biodegradable snap hook (pressed maize). We kindly ask you to return the name badge with the lanyard at the registration counter when leaving the conference centre.

## EMS2015 app



Download the EMS2015 app for iPhones and Android smartphones.

## Conference hours

### Oral sessions

Starting time for the oral sessions Tuesday to Friday is 09:00 am.

#### Monday, 07 September 2015

Opening:	09:30–13:00
Block 3:	14:00–16:00
Block 4:	17:00–19:00
Icebreaker reception:	19:15–21:00

#### Tuesday, 08 September 2015

Block 1:	09:00–10:30
Block 2:	11:00–13:00
Award ceremony:	14:00–15:30
Block 4:	17:00–19:00

#### Wednesday, 09 September 2015

Block 1:	09:00–10:30
Block 2:	11:00–13:00
Block 3:	14:00–16:00
Plenary discussion:	17:00–18:30

#### Thursday, 10 September 2015

Block 1:	09:00–10:30
Block 2:	11:00–13:00
Block 3:	14:00–16:00
Block 4:	17:00–18:30

#### Friday, 11 September 2015

Block 1:	09:00–10:30
Block 2:	11:30–13:00
Announcement of poster award recipient	13:15–14:00

▲ Please note that video-graphic recordings are not allowed, and mobile phones must be switched off/in mute mode during the sessions.

## Poster sessions

All posters are on display in room **Sofia I, adjacent to the foyer**. Poster numbers on the boards are printed in different colours, indicating the programme group.

### Poster introductions

For each session time is reserved for short oral introductions to posters. Some sessions foresee such a time slot within the oral programme, for other sessions this time slot is normally scheduled at 16:00, directly preceding the related poster-in-attendance time. For these later, the oral time slots can be found in the programme under separate session names, called P01, P02, P03, etc. For details of each session see the programme or the table on the right.

### Display times

Authors are kindly asked to put up their posters as soon as possible within the according display time in order to enable the conference participants to view their posters at any time within the display day, and to take them down on Wednesday between 18:00–18:30 (display time: Monday to Wednesday) and on Friday between 13:00–14:00 (display time: Thursday to Friday). Posters that have not been removed within this dismantling time will be removed and disposed off.

## Outstanding Poster Award

An Outstanding Poster Award will be given at the 15th EMS & 12th ECAM in Sofia.

All posters displayed on their poster boards will be screened by a selection committee. The evaluation of posters will be based on the following criteria:

- Scientific quality;
- Innovativeness of the approach;
- Potential impacts of the results;
- Presentation aspect, including clarity of the message to readers of your poster.

The selection committee consists of the following senior scientists:

- Ingeborg Auer, Austria
- Frank Beyrich, Germany
- Marie Doutriaux Boucher, EUMETSAT
- Ewen McCallum, UK (chair)
- Georgi Georgiev, Bulgaria

### Award

The author(s) will receive a certificate, one registration fee waiver for the EMS&ECAC 2016 and the poster will be highlighted as example of Best Practice on the EMS Website. The recipient of the award will be announced on Friday, 11 September 2015, 13:15, in the foyer.

The award winning poster 2014 is on display in the foyer and at the back of this programme book.



## Poster introductions and author-in-attendance times

Monday, 07 September 2015		Poster introductions	Author-in-attendance
ECAM1: From Observations to Mitigation	During oral session	15:50	Sofia II
ECAM6: Economic Benefits of Forecasts	During oral session	15:50	Sofia II
ASI1/NWP1: Dynamical Meteorology/predictability of high impact weather	During oral session	15:15	Vitosha
ASI2: Monsoon circulations over East Asia	PO2	16:00	Vitosha
ASI9: Atmospheric hazards	During oral session	18:45	Vitosha
CL4: Climate change detection	PO1	16:00	Sofia III
Tuesday, 08 September 2015		Poster introductions	Author-in-attendance
ASI3: Space weather	PO3	09:45	Kyoto
ASI5: Coastal meteorology & oceanography	PO6	15:45	Vitosha
ASI7/CE6: Human Biometeorology	PO3	09:45	Kyoto
ASI10: BL physics and parameterizations	PO4	15:45	Sofia III
ASI15: Phenology & agrometeorology	PO3	09:45	Kyoto
CL3: Historical Climatology	PO5	15:45	Kyoto
CL5: Climate prediction	During oral session	12:45	Sofia II
CE5: Education	PO6	15:45	Vitosha
OBS4: Meteorological Observations from GNSS	During oral session	10:15	Sofia III
OBS5: Precipitation Monitoring	PO4	15:45	Sofia III
Wednesday, 09 September 2015		Poster introductions	Author-in-attendance
SPS3: Big Data	During oral session	17:15	Sofia II
ECAM2: Impact-based warnings	During oral session	14:00	Sofia II
ECAM5/ASI20: Weather Risks to Transport	During oral session	12:45	Kyoto
ASI11: Hydrological & met. Forecast models	During oral session	10:15	Vitosha
ASI12/OBS2: Sub-kilometre scale precipitation	During oral session	12:30	Vitosha
ASI13: Urban climate	PO9	16:00	Vitosha
ASI14: Atm. Composition & pollution	During oral session	12:30	Sofia II
CL1: Climate monitoring	PO8	16:00	Kyoto
CL7: Synoptic Climatology	PO7	16:00	Sofia II
OBS3/ ASI19: Airborne Meteorology	PO9	16:00	Vitosha
Thursday, 10 September 2015		Poster introductions	Author-in-attendance
ECAM3: Verification	PO12	16:00	Kyoto
ASI16: Energy meteorology – part I	PO11	16:00	Sofia III
CL2: Spatial climatology	During oral session	10:15	Sofia II
CL6: Global and regional reanalyses	PO10	16:00	Sofia II
CL10: Copernicus CC Service	PO10	16:00	Sofia II
CE1: Media and Communication	During oral session	12:50	Vitosha
OBS1/ASI8: Atmospheric measurements	During oral session	12:45	Sofia III
NWP2: Numerical aspects in NWP models	During oral session	09:00/10:15	Kyoto
NWP3: Data assimilation	During oral session	18:15	Vitosha
NWP4: Probab. & ensemble forecasting	During oral session	12:45	Kyoto
Friday, 11 September 2015		Poster introductions	Author-in-attendance
ECAM3: Verification		Thursday	10:30–11:30
ASI4: Parametr. of small-scale processes	PO16	10:30	Vitosha
ASI16: Energy meteorology – part II	PO14	10:30	Sofia III
CL9/CE7: Climate Services partnerships	PO13	10:30	Sofia II
NWP6: MesoVICT	PO15	10:30	Kyoto

## Coffee breaks & lunch

### Coffee breaks

Free coffee/tea will be served during the coffee breaks. The coffee station is located in the foyer of the conference area.

#### Monday, 07 September 2015

10:30–11:00 and 16:00–17:00

#### Tuesday, 08 September 2015

10:30–11:00 and 16:00–17:00

#### Wednesday, 09 September 2015

10:30–11:00 and 16:00–17:00

#### Thursday, 10 September 2015

10:30–11:00 and 16:00–17:00

#### Friday, 11 September 2015

10:30–11:30

### Lunch

#### Monday–Friday, 13:00–14:00

Drinks and meals are served in the restaurants of the conference hotel, i.e.

- Ambassador restaurant
- Captain Cook Restaurant
- Happy Sushi
- Candy Club

In addition, bistros, restaurants and supermarkets are available in walking distance.

## Icebreaker reception

Location: Conference foyer

Date: Monday, 07 September 2015, 19:15–21:00

## Announcement of poster award recipient

Location: Conference foyer

Date: Friday, 11 September 2015, 13:15–14:00

## Publications

### Paper publication in Advances in Science and Research

Authors of contributions that have been accepted to one of the EMS & ECAM 2015 session topics are invited to submit short conference papers to the open access journal *Advances in Science and Research* (<http://www.adv-sci-res.net/volumes.html>).

Details will be sent to the authors by email after the conference.

### Upload of presentations

After the conference, you have the option to upload your oral presentation or your poster as Power Point or PDF file for online publication alongside your abstract. This shall give all interested participants the chance to revisit your contribution.

Details will be sent to the authors by email after the conference.

# Advances in Science & Research

The **Open Access Proceedings** of the  
European Meteorological Society (EMS)

**Managing Editor | Martina Junge**

**Advances in Science and Research (ASR)** is the international open access proceedings journal of the European Meteorological Society (EMS). ASR publishes advances in science, profession and application of meteorology, climatology and related fields presented at the Annual Meetings of the EMS as well as at the European Conferences on Applications of Meteorology (ECAM) and on Applied Climatology (ECAC). All manuscripts submitted to ASR undergo a rigorous peer-review organised by the Programme and Science Committee (PSC).

### **Abstracted/Indexed**

Indexed in ADS and GeoRef

Included in Directory of Open Access Journals (DOAJ)

Long-term e-archived in Portico and CLOCKSS

### **Deadline for submissions: 15 January 2016**

Authors of contributions that have been accepted to one of the EMS & ECAM 2015 session topics are invited to submit short conference papers. Details will be sent to the authors by email after the conference.

## Exhibition

**Monday, 12:00–18:00 and Tuesday–Thursday, 09:00–18:00**

Please use the opportunity to visit the exhibition in the conference foyer (the exhibitors are listed in alphabetical order):

### American Meteorological Society

45 Beacon Street  
Boston, MA 02108  
United States

<http://ametsoc.org/>



The American Meteorological Society promotes the development and dissemination of information and education on the atmospheric and related oceanic and hydrologic sciences and the advancement of their professional applications. Founded in 1919, AMS has a membership of more than 14,000 professionals, students, and weather enthusiasts. AMS publishes eleven atmospheric and related oceanic and hydrologic journals – in print and online –, sponsors more than 12 conferences annually, and offers numerous programs and services.

### Kipp & Zonen B.V.

P.O. Box 507  
2600 AM Delft  
Netherlands

<http://www.kippzonen.com>



Kipp & Zonen is the leading specialist in the measurement of solar and sky radiation, from the ultraviolet to the far infrared. We offer a complete range of high quality instrumentation and accessories, from reliable cost-effective products to the best performance available. Our equipment is used in meteorology, climate and solar energy networks around the world. Furthermore our expertise and close links with the scientific community have led to high-end solutions for the measurement of atmospheric properties such as stratospheric Ozone, UV Spectra and evapo-transpiration.

The USB flash drives which contain the programme and the abstracts of the conference are sponsored by Kipp & Zonen.

### Meteorological Technology World Expo Brussels

Brussels Expo, Hall 3  
Belgieplein - 1 - Place de Belgique  
1020 Brussels  
Belgium

<http://www.meteorologicaltechnologyworldexpo.com>



Meteorological Technology World Expo Brussels, Belgium, 13th to 15th October, is the largest exhibition of meteorological technology in the World, with 170 exhibitors demonstrating the very latest in observation and prediction technologies for better environmental monitoring, weather forecasting and business decision-making. UKIP Media & Events is an established and rapidly growing trade fair organiser and publisher of journals in niche technology areas. Come and see us to discuss your free magazine subscription, or participation at our next Expo.

### Scintec AG

Wilhelm-Maybach-Strasse 14  
72108 Rottenburg  
Germany

<http://www.scintec.com>



Scintec produces the most advanced and comprehensive line of wind and temperature profilers in SODAR, RADAR and RASS technology, as well as optical SCINTILLOMETERS for the measurement of boundary layer turbulence and heat flux. Continuing scientific innovation, outstanding product design and customer oriented philosophy has made Scintec a global leader in this field. Please come and visit us at our booth.

The conference writing pads for participants are sponsored by Scintec.

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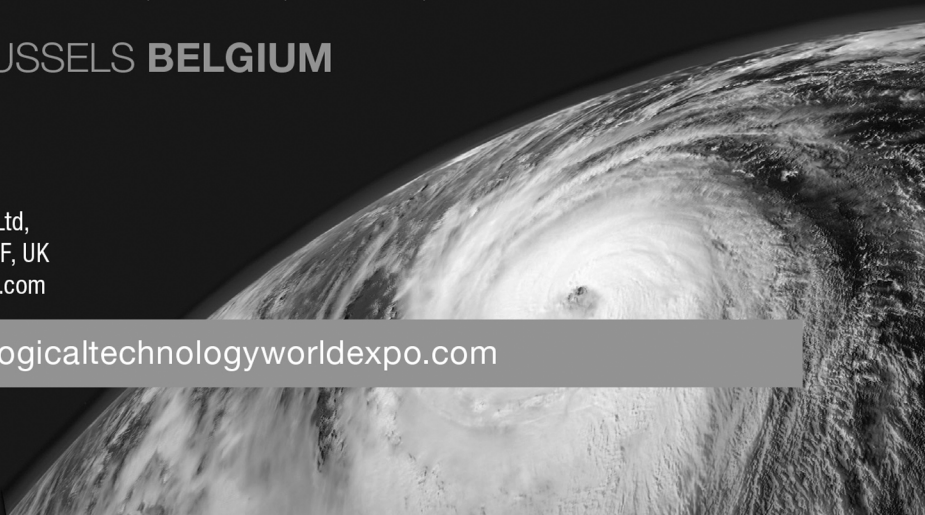
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Further information:

Please contact Simon Willard at: UKIP Media & Events Ltd,  
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[www.meteorologicaltechnologyworldexpo.com](http://www.meteorologicaltechnologyworldexpo.com)



# OPENING SESSION, MONDAY, 07 SEPTEMBER 2015

Room: Sofia II

## 09:30–10:30 **OPENING BY THE EMS PRESIDENT AND WELCOME ADDRESSES**

Horst Böttger, EMS President  
Hristomir Branzov, NIMH-BAS Director  
Ekaterina Batchvarova, BMS President  
Paulina Valtchanova, AMC President, BULATSA  
Ivelina Vassileva, Minister of the Environment and Water, Bulgaria  
Lilyana Pavlova, Minister of Regional Development and Public Works, Bulgaria  
Academician Stefan Vodenicharov, President of the Bulgarian Academy of Sciences  
Will Lang, ECAM  
Ingeborg Auer, Climate Programme  
Robert Mureau, PRIMET  
HMEI – The Association of Hydro-Meteorological Equipment Industry  
Alexander MacDonald, AMS President

## 10:30–11:00 **COFFEE BREAK**

## 11:00–13:00 **STRATEGIC LECTURES**

*Chair: Horst Böttger*

**Deon Terblanche**, World Meteorological Organization

*The WMO contribution towards minimizing risks from weather, climate, hydrological and related environmental events*

**Stuart Goldstraw**, UK Met Office

*Observing Initial Conditions and Hydro-Meteorological Impacts – how do we ensure both requirements are met in the coming years?*

**Fernando Prates**, ECMWF

*Predicting high impact weather using ECMWF products*

**Michael Staudinger**, ZAMG

*Multihazard early warning systems: What can European citizens expect from their NHMSs?*

## 13:00 **CLOSING**

**PUBLIC GREAT DEBATE,  
WEDNESDAY, 09 SEPTEMBER 2015**

Room: Sofia II

**“BIG DATA” IN METEOROLOGY: OPPORTUNITIES  
AND CHALLENGES  
17:00–18:30**

Big Data – is it real or is it hype? Interest is now growing in the meteorological world in this subject. The ever-growing amounts of information now available presents both opportunities and problems for meteorologists. “Big Data” – huge in volume and from multiple, and often non-traditional, sources – is almost by definition “messy”.

- So how do we ensure that the right information is used in the forecasting process?
- Can it improve our analyses and nowcasts?
- How can we be sure that forecasters and decision-makers can identify and have access to the most relevant data?
- What can we infer from the vast amount of non-meteorological data?
- And what special techniques and systems are we developing to do all of this?

**MODERATOR**

**Will Lang**, UK Met Office

Short introductory statements will be given by invited speakers. The floor will then be open to panellists as well as the audience for questions, statements, discussions.

**INVITED SPEAKERS**

**Ken Mylne**, UK Met Office  
**Robert Mureau**, Meteogroup  
more to be confirmed

# AWARDS SESSION, TUESDAY, 08 SEPTEMBER 2015

Room: Sofia II

**14:00–15:30**

## **AWARD CEREMONIES**

YOUNG SCIENTIST TRAVEL AWARDS

2014 POSTER AWARD

EMS YOUNG SCIENTIST AWARD

EMS OUTSTANDING CONTRIBUTION AWARD

EMS MEDIA AWARDS

EMS TROMP AWARD

HARRY OTTEN PRIZE

EMS SILVER MEDAL

**Young Scientist Travel Awards** are given to support participation of outstanding students and young scientists at EMS-co-sponsored conferences. The award is given as travel expenses support. The recipients are selected by the EMS Awards Committee. For this year's recipients see page 13.

The **Outstanding Poster Award** has been established to highlight good quality posters presented at the EMS Annual Meetings. The winners of the award 2014 are M. Ponater, V. Rieger, S. Dietmüller, DLR Oberpfaffenhofen, Germany, with the poster *Can feedback analysis be used to understand efficacy differences between radiative forcings?* The poster is on display in the foyer and printed at the back of this programme book. The winner of the award 2015 will be announced on Friday, 11 September 2015, 13:15.

The **EMS Young Scientist Award** is presented annually to acknowledge excellence in young scientists. The awardee 2015 is Miguel Potes, University of Evora. He is awarded for his work that links improved measurements of water quality and turbidity with modeling its impact on lake-atmosphere interactions at the regional scale. Miguel will give a Young Scientist Award Lecture on Thursday, 10 September 2015, 11:45 in Session OBS1/AS18. See page 13.

The **EMS Outstanding Contribution Award** has recently been established and is given for the first time. Tanja Cegnar is honoured for her relentless pursuit of the Media and Communication activities of the Society, continuously contributing to their growth and promoting with exceptional dedication the international networking of Broadcast Meteorologists. See page 14.

The **EMS Media Awards** include the TV Weather Forecast Award – given to acknowledge best practice in communication of weather forecasts –, the Outreach and Communication Award – given in recognition of projects that explore new and effective ways to communicate the science of meteorology and related fields – and the Journalist Award that aims to highlight outstanding professional work that explains the science to the public. For details on the awardees 2015 see page 14.

The **EMS Tromp Award** is given for the first time and honours outstanding achievement in biometeorology. The first recipient is Bert G. Heusinkveld. He will give a presentation on his work on Tuesday, 08 September 2015, 18:45, Room Kyoto. For more details see page 15.

The **Harry Otten Prize for Innovation in Meteorology** encourages individuals and groups to come forward with new ideas on how meteorology in a practical way can further move society forward. Three finalists will present their ideas on Monday, 07 September 2015, 14:00, Room Kyoto. For more details see page 16.

The **EMS Silver Medal** is presented annually to a person that has made distinguished contributions to the development of meteorology in Europe. The Silver Medal 2015 is awarded to Anton Eliassen for his outstanding service to the European and international meteorological community and pioneering efforts to make meteorological data freely available. The Laudatio is given by Alain Ratier. More details see page 17.



## Young Scientist Award



The EMS Young Scientist Award 2015 is awarded to Miguel Potes from the University of Evora, Portugal, for his publication: "Satellite remote sensing of water turbidity in Alqueva reservoir and implications on lake modelling", M. Potes, M. J. Costa and R. Salgado; *Hydrol. Earth Syst. Sci.*, 16, 1623–1633, 2012, [www.hydrol-earth-syst-sci.net/16/1623/2012/](http://www.hydrol-earth-syst-sci.net/16/1623/2012/), doi:10.5194/hess-16-1623-2012.

Citation: Miguel Potes' work links improved measurements of water quality and turbidity with modeling its impact on lake-atmosphere interactions at the regional scale.

Miguel will give a Young Scientist Award Lecture in session OBS1/ASI8 Atmospheric measurements from the local to the regional scale: Concepts, new technologies and scientific progress: How lakes influence the local atmospheric circulation on Thursday, 10 September 2015 at 12:15 in room Sofia III.

## Young Scientist Travel Awards

**Anastasia Blea** and Panagiotis Nastos

*EMS2015-44: Present and Future Human Thermal Bioclimatic Conditions and Impacts on Cardiovascular Admissions in Crete Island, Greece*

**Tuesday, 08 September 2015, 17:45–18:00**

Session ASI7/CE6, room: Kyoto

See page 37.



**Hajnalka Breuer** and Júlia Göndöcs

*EMS2015-46: Numerical study on parameterized and explicit cumulus convection resulted precipitation dependence on initial soil moisture content at 5 km horizontal resolution*

**Thursday, 10 September 2015**

**Author-in-attendance time: 16:15–17:00**

Poster number: P76 (Sofia I)

Session NWP2

See page 83.

**Markel García-Díez** et al.

*EMS2015-20: A study of the Urban Heat Island of Barcelona using a fast urban climate model*

**Wednesday, 09 September 2015, 14:00–14:15**

Session ASI13, room: Vitosha

See page 55.



**Yasar Burak Oztaner** et al.

*EMS2015-37: Impact of Land-Use Types and Urban Canopy Structure on Urban Heat Island via High Resolution WRF Modeling: Istanbul Case Study*

**Thursday, 10 September 2015, 10:00–10:15**

Session: NWP2, room: Kyoto

See page 76.

# EMS OUTSTANDING CONTRIBUTION AND MEDIA AWARDS

## EMS Outstanding Contribution Award

The recipient of the first EMS Outstanding Contribution Award is **Tanja Cegnar**, Slovenia, the chair of the EMS Media Team. She is honoured for her relentless pursuit of the Media and Communication activities of the Society, continuously contributing to their growth and promoting with exceptional dedication the international networking of Broadcast Meteorologists, developing the Media and Communication session programme at Annual Meetings as a forum for exchange and communication, as well as instigating communication and public presentation training for scientists.

Tanja Cegnar works at the Slovenian Environment Agency and is a weather presenter at the national television in Slovenia. *She chairs the session on Media and Communication, Thursday, 10 September 2015, 09:00–13:00 in Room Vitosha.*

**The EMS Journalist Award 2015** is presented to Stéphane Foucart, France. **Stéphane Foucart** regularly publishes articles addressing climate change and its social and environment impact in the "Planet" section of "Le Monde". He was nominated for the Journalist Award on the basis of three recent articles published in "Le Monde":

- One third of sea level rise is due to melting of high altitude glaciers (Un tiers de l'élévation des mers est dû à la fonte des glaciers d'altitude, June 2013)
- The climate and war (Le climat et la guerre, November 2014)
- Climate and the trade of doubt (Le climat et le commerce du doute, March 2015)

Stéphane Foucart is vigilant to detect and expose misleading information about climate change and he is reporting in an understandable way the scientific facts about the environment, the climate and also about climate change in the context of politics. These implications of climate and climate change are rarely addressed by meteorologists or climatologists, but are of utmost importance.

Stéphane Foucart was born in 1973; he has been working for "Le Monde" for 15 years now, and he is the journal's environmental sciences correspondent since 2007. He is also the author of books investigating the corporate influence on science (Le Populisme climatique, 2010, and La Fabrique du mensonge, 2013).

Stéphane Foucart will share some thoughts about science, journalism & the climate debate during the *Media & Communication Session on Thursday, 10 September 2015.*

## The EMS Outreach & Communication Award 2015

is presented to the **UK Festival of Weather, Arts and Music (WAM)**. In 2011 Pierrette Thomet Stott devised the idea for a festival bringing together the arts and meteorology/climate science to explore the possibilities inherent in bringing these different disciplines to interact. Since its foundation WAM has held three very successful events. The first festival in 2012 saw about a thousand people take part in a wide variety of events in Reading Town Hall. These included a weather fair, music recitals, a Climate Change Question Time, an art exhibition, a weather clinic, and a recreation of Lewis Fry Richardson's Forecast Factory.

WAM has found new ways to communicate the beauty and fascination of meteorology thereby enhancing the understanding of weather and climate science by the general public in the United Kingdom. This outstanding initiative has broadened the reach of scientific meteorology, enabled the general public to engage with meteorology in novel ways and enhanced many people's appreciation of its effects on our lives and the challenges involved in forecasting it.

Pierrette Thomet Stott, WAM Director, holds a BA in Music from the University of Reading and a Diploma in Operatic Performance from the University of London. She trained as a mezzo-soprano and has performed in Great Britain and abroad as a recitalist and oratorio soloist. She will present the WAM project and talk about upcoming projects during the *Media & Communication Session on Thursday, 10 September 2015.*

**The EMS TV Weather Forecast Award 2015** is presented to **Martín Barreiro**, Spain.

The entry went beyond a "normal" weather forecast, as it included information about the ocean and red tides. There was also a good scientific explanation of the link between meteorological conditions affecting wave heights and strengths on the western coast of Spain. His presentation of weather conditions was poised, confident, and thorough.

Martín Barreiro Carreira, was born 1977, and holds a Degree in Physics from the University of Santiago de Compostela (2003). From 2002 to 2010 he worked as operational and numerical meteorologist at MeteoGalicia, a regional meteorological centre, and as a weather forecaster and presenter at Televisión Galicia TVG (Galician public television). In 2010 he joined Televisión Española TVE (Spanish public television). Martín Barreiro is specialized in maritime weather forecasts. He likes to explain complex aspects of the relation between the atmosphere and the ocean.

19 video clips of TV weather forecasts were submitted for the Award, ten of the entries were received from countries outside of Europe.

# EMS TROMP AWARD FOR AN OUTSTANDING ACHIEVEMENT IN BIOMETEOROLOGY

**The Tromp Foundation (Foundation for Biometeorological Research), the legacy of Solco W. Tromp, is funding this award with the intention to promote biometeorology in Europe. Biometeorology is an interdisciplinary science studying the interactions between atmospheric processes and living organisms – plants, animals and humans. It provides answers to the question How does weather and climate impact the well-being of all living beings?**

The EMS Tromp award has recently be established and is given for the first time this year. The EMS Tromp award 2015 winner is **Bert G. Heusinkveld**, nominated with the paper *Spatial variability of the Rotterdam urban heat island as influenced by urban land use*, published in the Journal of Geophysical Research: Atmospheres, 2014.

The prize will be presented during the 15th EMS Annual Meeting and 12th ECAM on 08 September 2015 in Sofia, Bulgaria. The awardee will receive \$US 1,000 and travel expenses to attend the EMS Annual Meeting. The awardee will give a presentation on 08 September 2015 at the EMS & ECAM session AS17/CE6 Human Biometeorology.

## **Who was Solco Walle Tromp?**

Solco W. Tromp was born on March 1909. He studied geology and geography at Leyden University, The Netherlands, and after he received his PhD he worked as an exploration geologist for oil companies. During World War II he became involved in de Dutch section of MacArthur's Headquarters. After the war, he studied physiology and meteorology; in 1947 he became a Professor of Geology at the King Saud University in Cairo, Egypt; from 1950 to 1955 he was a geological consultant at the UN Technical Assistance programme for Central America and the Middle east.

In 1955, he switched to biometeorology and founded the Biometeorological Research centre in Leyden. In the same year he founded the International Society for Biometeorology of which he was secretary until 1976. Solco Tromp combined three distinct qualities, a highly scientific mind, a logical intellect and an excellent organisational talent. By 1953, he already achieved a substantial bibliography on topics, which we may refer to as biomedical science or medical geography. His remarkable productive energy continued to the time of his death in 1993.

As a person, Solco Tromp was very courteous, full of humour and with a great zest for life. He became the main promoter of biometeorology for many years after his geology career. After he died part of his legacy was allocated to The Tromp Foundation (Foundation for Biometeorological Research). The aim of the Foundation is to promote Biometeorology.

***Solco W. Tromp Foundation***

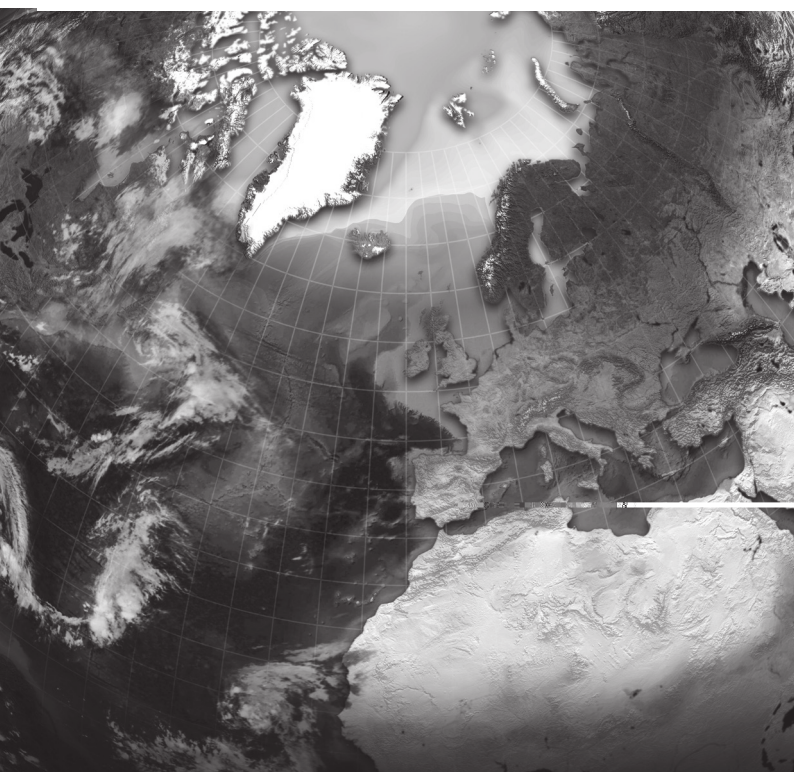


The

# Harry Otten Prize

for Innovation in Meteorology

## Who will win the prize? for the best innovative idea in meteorology



The Harry Otten Prize is a prize of 25000 Euro that will be awarded every two years for the best innovative idea in Meteorology.

The jury has selected three finalists who will present their ideas during a session on Monday, 7 September, at the meeting of the European Meteorological Society (EMS) in Sofia, Bulgaria.

Afterwards the jury will decide on the prize which will be presented to the winner during the award ceremony on Tuesday, 8 September.

### The finalists are:

Alexandros Charalambides, Rogiros Tapakis  
PROGNOSIS

Olivier Boucher

Low-cost humidity observations for weather prediction from automated detection of aviation contrails

Tim Hewson, Florian Pappenberger

Flash Flood Prediction using Current-Generation Global Models



# EMS SILVER MEDAL LECTURE 2015

**Prestigious award for outstanding service to the European and international meteorological community and pioneering efforts to make meteorological data freely available.**

The European Meteorological Society (EMS) has chosen **Anton Eliassen** as Laureate of the EMS Silver Medal 2015. He is honoured for his scientific contribution to environmental meteorology, his outstanding service to the European and international meteorological community that was e.g. central for the success of the Convention on Long-Range Trans-boundary Air Pollution, and his major role in increasing and enhancing the public understanding of meteorological information through his effort to make meteorological data freely available.

The Silver Medal ceremony, which includes the Silver Medal Lecture "Meteorology and Society: Air pollution, weather forecasting and free data" by the Laureate, will be held on Tuesday, 08 September 2015.

Anton Eliassen undoubtedly had and has a great influence on shaping the meteorological landscape in Europe over the past decades. He has had a leading role in the governance of most European meteorological organisations and in the international meteorological community. His outstanding leadership and capabilities to integrate has contributed to the development of the European Meteorological Infrastructure within ECMWF, ECOMET, EUMETSAT and WMO.

Anton Eliassen is an outstanding researcher, he has made significant scientific contributions to environmental meteorology through his pioneering work on the modelling of the long range transport of air pollutants since the early 1970s, resulting in a range of very important findings and providing the technical underpinning of the Convention of Long Range Transboundary Air Pollution and its ensuing Protocols for the reduction of air pollution emissions in Europe.

Being a strong advocate of free data policy, his pioneering efforts to make meteorological data freely available has greatly helped to enhance the public understanding of meteorological information. His view to make data freely available was visionary and ground breaking.

## **Laudation**

The laudation will be given by Alain Ratier, EUMETSAT Director-General.

Mr Ratier was appointed EUMETSAT's fourth Director-General on 01 August 2011. Between 2004 and 2011, he was Deputy Director-General of Météo-France.

Previously, Mr Ratier was Director of Programme Development and Deputy Director-General in EUMETSAT between 1996 and 2004. From 1987 to 1996 Mr Ratier was a Programme Manager and subsequently Associate Director for Earth Observation Programmes at the French Space Agency (CNES). Mr Ratier's career began in R&D activities at Météo-France in 1983, on modelling of the upper ocean and air-sea interactions and on data assimilation. Mr Ratier graduated from the École Polytechnique in 1981.

## **EMS Silver Medal**

The EMS Silver Medal was established in 2008 to honour important contributions to the development of meteorology in Europe. The Award is presented annually. Previous recipients include Karin Labitzke (Germany), René Morin (France), Lennart Bengtsson (Sweden/Germany), David Burridge (United Kingdom), Jean-François Geleyn (France/Czech Republic), Tim Palmer (United Kingdom), Hartmut Graßl (Germany) and Peter Lynch (Ireland).

## Side meetings

### Sunday, 06 September 2015

**SPS6: Successful Session Chairing: some useful hints and exchange of best practices**

Contact: Ewen McCallum and Martina Junge  
18:00–19:00  
Room: Madara

### Monday, 07 September 2015

**SIM1: Harry Otten Board meeting (by invitation only)**

Contact: Richard Anthes  
09:30–13:00  
Room: Elena

### Tuesday, 08 September 2015

**SIM1: Harry Otten Board meeting (by invitation only)**

Contact: Richard Anthes  
09:00–12:30  
Room: Elena

**SIM4: UERRA WP3 (by invitation only)**

Contact: A. K. Kaiser-Weiss  
17:00–19:00  
Room: Elena

### Wednesday, 09 September 2015

**SIM2: Communicating Climate Change (by invitation only)**

Contact: Tanja Cegnar  
09:00–13:00 & 17:00–18:30  
Room: Silhouette Hall (19th floor)

**SIM5: WMO Joint Working Group of Forecast Verification Research (by invitation only)**

Contact: Marion Mittermaier  
09:00–18:30  
Room: Elena

**SIM7: Programme and Science Committee 2016 (by invitation only)**

Contact: Martina Junge  
19:00–20:30  
Room: Silhouette Hall (19th floor)

### Friday, 11 September 2015

**SIM6: MesoVICT project committee meeting (public)**

Contact: Marion Mittermaier  
13:30–15:30  
Room: Elena



# EUMETSAT METEOROLOGICAL SATELLITE

CONFERENCE 2016

The EUMETSAT Meteorological Satellite Conference has been a key annual event for the meteorological community since the organisation's inception in 1986. Since then, it has been hosted in numerous countries, and often co-organised by various Member and Cooperating States.

In its 30th anniversary year, it is fitting that the 2016 EUMETSAT Meteorological Satellite Conference will be held in EUMETSAT's "home ground" of Darmstadt, Germany.

Sessions will be held on such topics as current and future satellite programmes and instruments, the use of satellite data for nowcasting and short-range NWP, the Arctic challenge, marine meteorology and oceanography, the role of satellite data records in climate services and space-based atmospheric composition and measurements.

## WHO SHOULD ATTEND

- Experts from meteorological services, universities, satellite operating agencies working in the field of satellite meteorology and related applications in weather forecasting, climate research and services, oceanography and the environment.
- Interested scientists and students from universities and organisations dealing with Earth observations.

## FOR MORE INFORMATION CONTACT:

**Conference-organisation@eumetsat.int**

Abstract submission deadline is 30 January 2016

DARMSTADT. GERMANY.  
26-30 SEPTEMBER.



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Monday, 07 September 2015					
09:30–10:30	<p align="center"><b>Opening Session I Room Sofia II</b> Opening by the EMS President and Welcome Addresses see also page 10</p>				09:30–10:30
10:30	Coffee Break				10:30
11:00–13:00	<p align="center"><b>Strategic Lectures I Room Sofia II</b> see also page 10</p>				11:00–13:00
13:00	Lunch Break				13:00
Room	Sofia II	Sofia III	Kyoto	Vitosha	Room
14:00–16:00	<p><b>ECAM1:</b> From Observations and NWP to Warnings and Impact Mitigation <b>15:50: Poster Introduction ECAM1, ECAM6</b></p>	<p><b>CL4:</b> Climate change detection, assessment of trends, variability and extremes</p>	<p><b>Harry Otten Prize:</b> Presentations by finalists</p>	<p><b>ASI1/NWP1:</b> Dynamical meteorology and predictability of high impact weather <b>15:30: Poster Introduction</b></p>	14:00–16:00
16:00		<p><b>P01: Poster Introduction CL4</b></p>		<p><b>P02: Poster Introduction ASI2</b></p>	16:00
16:15–17:00	<p align="center"><b>Poster Session &amp; Coffee Break I Foyer and Room Sofia I</b></p> <p align="center"><i>Poster authors in attendance time for the following sessions :</i> ECAM programme group: <b>ECAM1</b> (P1 - P5), <b>ECAM6</b> (P10, P11) ASI programme group: <b>ASI1/NWP1</b> (P12 - P16), <b>ASI2</b> (P17 - P21), <b>ASI9</b> (P33 - P39) CL programme group: <b>CL4</b> (P85 - P98)</p>				16:15–17:00
17:00–19:00	<p><b>ECAM1 continued</b> <b>17:00 ECAM6:</b> Understanding and Improving the Socio-Economic Benefits of Forecasts <b>18:45: Joint Discussion: ECAM1 &amp; ECAM6</b></p>	<p><b>CL4 continued</b></p>	<p><b>ASI2:</b> Dynamics, monsoon circulations and teleconnections on anomalous weather over East Asia</p>	<p><b>ASI9:</b> Atmospheric hazards <b>18:45: Poster Introduction</b></p>	17:00–19:00
19:15	Ice breaker in exhibition area and foyer				19:15

In the detailed daily programme (on page 22 to 32) the related ECAM, CL, and ASI sessions are listed in the following order: ECAM1, ECAM6, ASI1/NWP1, ASI2, ASI9, CL4.

**Poster display time Monday to Wednesday**

Authors are kindly asked to put up their posters as soon as possible within the allocated display time in order to enable the conference participants to view their posters at any time within the display days, and to take them down on Wednesday evening between 18:00–19:30. Posters that have not been removed within this dismantling time will be removed and disposed off.

## Special Events

### SPS1 Opening Session

Lecture Room: Sofia II

**09:30–10:30**

**Chairperson(s):** Horst Böttger

**09:30–10:30:**

Opening by the EMS President and Welcome Addresses

**10:30 Coffee break**

#### Strategic Lectures

**11:00–11:30:**

**Deon Terblanche**, WMO Atmospheric Research and Environment Branch, Director  
The WMO contribution towards minimizing risks from weather, climate, hydrological and related environmental events

**11:30–12:00:**

**Stuart Goldstraw**, Met Office  
Observing Initial Conditions and Hydro-Meteorological Impacts - how do we ensure both requirements are met in the coming years?

**12:00–12:30:**

**Fernando Prates**, ECMWF  
Predicting high impact weather using ECMWF products

**12:30–13:00:**

**Michael Staudinger**, ZAMG  
Multihazard early warning systems: What can European citizens expect from their NHMSs?

#### Closing

**END OF ORAL PROGRAMME SPS1**

### SPS4 Harry Otten Prize for Innovation in Meteorology: Presentations by Finalists

**Conveners:** Richard Anthes; Dennis Schulze

**Lecture Room:** Kyoto

**14:00–15:27**

**Chairperson(s):** Rick Anthes

**14:00–14:10:**

Introduction

**14:10–14:30: EMS2015-639**

Methodology for predicting solar irradiance  
Rogiros Tapakis, **Alexandros G. Charalambides**  
PROGNOSIS, Greece

**14:30–14:35:**

Discussion

**14:35–14:55: EMS2015-638**

Probing the upper troposphere by watching aircraft  
**Olivier Boucher**  
Laboratoire de Météorologie Dynamique, UPMC / CNRS, Paris, France

**14:55–15:00:**

Discussion

**15:00–15:20: EMS2015-640**

Predicting Flash Floods using Current-Generation Global Models  
**Tim Hewson**, Florian Pappenberger  
ECMWF, UK

**15:20–15:25:**

Discussion

**15:25–15:27:**

Conclusion

**END OF ORAL PROGRAMME SPS4**

## Applications of Meteorology

### ECAM1 From Observations and NWP to Warnings and Impact Mitigation

**Convener:** Ken Mylne

**Co-Conveners:** P. Davies; Yong Wang; Bernhard Reichert

**Lecture Room:** Sofia II

**14:00–16:00**

**Chairperson(s):** Bernhard Reichert

**14:00–14:05:**

Introduction

**14:05–14:20: EMS2015-214**

Seamless probabilistic forecasts on high impact weather for civil protection

**Yong Wang**, Martin Suklitsch, Clemens Wastl, Andre Simon, Mihaly Szucs  
Zentralanstalt für Meteorologie und Geodynamik, Department of Forecasting Models, Vienna, Austria (wang@zamg.ac.at)

**14:20–14:35: EMS2015-524**

FOGCAST: Probabilistic fog forecasting based on operational COSMO-DE model

**Matthieu Masbou**, Maike Hacker, Sabrina Wahl  
Deutscher Wetterdienst, Research and Development, Offenbach am Main, Germany (matthieu.masbou@dwd.de)

**14:35–14:50: EMS2015-404**

The Ensemble-MOS of Deutscher Wetterdienst

**Reinhold Hess**, Jenny Glashoff, Bernhard K. Reichert  
Deutscher Wetterdienst (DWD)

**14:50–15:05: EMS2015-470**

The automated generation of weather warning proposals as part of a decision support system for the weather warning service

**Guido Schröder**, Bernhard K. Reichert, Dirk Heizenreder  
Deutscher Wetterdienst, Offenbach/Main, Germany

**15:05–15:20: EMS2015-273**

Grid-Based Forecasting and the Role of the Weather Forecaster

**Michael Foley**, Deryn Griffiths, Tennessee Leeuwenburg, Gary Weymouth  
Bureau of Meteorology, Melbourne, Australia (m.foley@bom.gov.au)

**15:20–15:35: EMS2015-427**

Recent developments in high-impact weather forecasting capabilities within the Met Office  
Rob Neal, Jo Robbins, Helen Tittley, Becky Hemingway, Rutger Dankers, **Ken Mylne**

**15:35–15:50: EMS2015-623**

Flooding from Intense Rainfall  
**Sarah Dance**, Hannah Cloke, Sue Ballard  
University of Reading, Reading, UK

**15:50–16:00:**

Joint Poster Introductions for sessions ECAM1 and ECAM6 - 1 slide

**16:00 Coffee break**

**17:00–19:00**

**Chairperson(s):** Ken Mylne

**17:00–17:15: EMS2015-592**

Prediction of weather related fire brigade operations on the basis of nowcasting data

**Tobias Pardowitz**, Tobias Heisterkamp, Martin Göber, Uwe Ulbrich  
Freie Universität Berlin, Institut f. Meteorologie, Berlin, Germany (tobias.pardowitz@met.fu-berlin.de), Hans-Ertel-Zentrum für Wetterforschung, Berlin, Germany

**17:15–17:30: EMS2015-85**

Assessing current capabilities and identifying areas of improvement to flood risk guidance information provided by the Flood Guidance Statement.

**Gavin Robbins**  
Flood Forecasting Centre, Exeter, United Kingdom (gavin.robbins@environment-agency.gov.uk)

**17:30–17:45: EMS2015-64**

The potential of using model precipitation forecasts to predict floods on the example of the south of Western Siberia

**Marina Zdereva**, Svetlana Sannikova, Natalya Khluchina  
Russian Federation (zder57@mail.ru) Siberian Regional Hydrometeorological Res. Institute City, Novosibirsk

**17:45–18:45:**

Oral programme ECAM 6

**18:45–19:00**

Joint Discussion: ECAM1 - ECAM6

**END OF ORAL PROGRAMME ECAM1**

## ECAM6 Understanding and Improving the Socio-Economic Benefits of Forecasts

**Convener:** Adriaan Perrels  
**Lecture Room:** Sofia II

**17:45–19:00**

**Chairperson(s):** Adriaan Perrels

### Assessing Socioeconomic Benefits of Weather and Climate Services

**17:45–18:00: EMS2015-634**

Assessing Socioeconomic Benefits of Weather and Climate Services

**Adriaan Perrels**

Finnish Meteorological Institute

**18:00–18:15: EMS2015-282**

Recent developments in the use of Numerical Weather Outputs for agrometeorological services in Spain (Agroasesor project)

Antonio Mestre Barcelo, Roser Botey, Andres Chazarra, **J.Vicente Moreno**

AEMET, Madrid, Spain (amestreb@aemet.es)

**18:15–18:30: EMS2015-452**

Assessing the Economic Value of Forest Fire Danger Forecasts in Germany

**Thomas Schuhmacher**

Deutscher Wetterdienst, München, Germany (thomas.schuhmacher@dwd.de)

**18:30–18:45: EMS2015-635**

Met Office European Windstorm Event response services

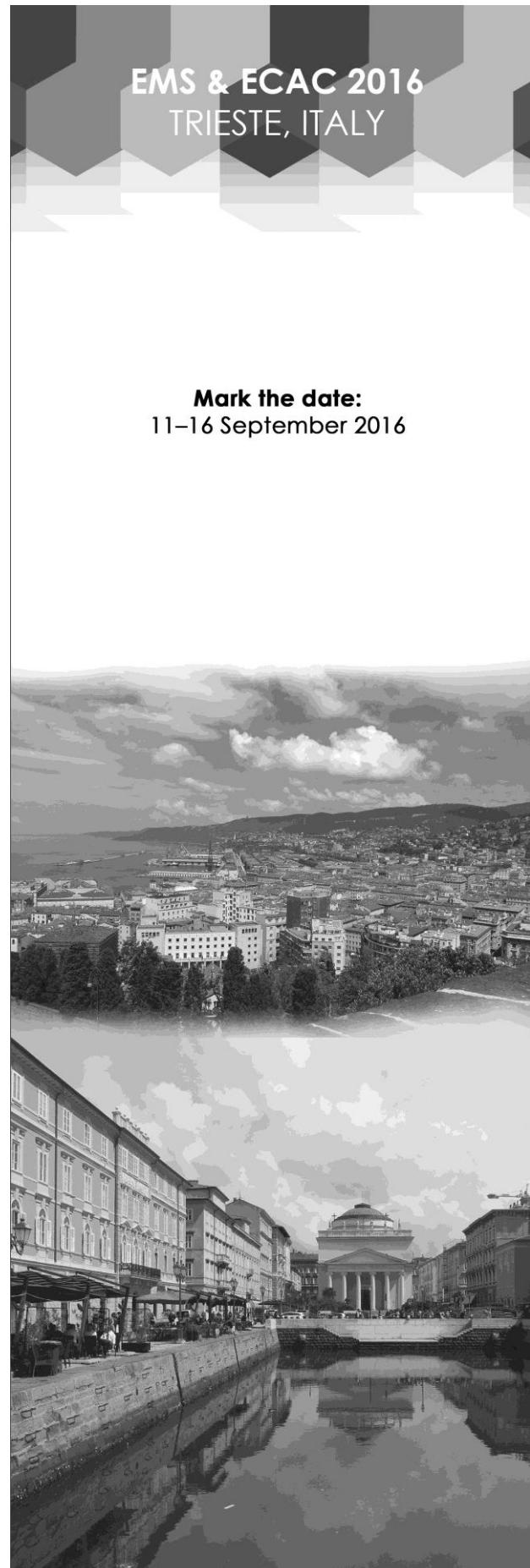
**Bernd Becker, Paul Maisey**

Met Office, Fitzroy Road, Exeter, EX1 3PB, UK (bernd.becker@metoffice.gov.uk, paul.maisey@metoffice.gov.uk)

**18:45–19:00:**

Joint Discussion: ECAM1 & ECAM6

**END OF ORAL PROGRAMME ECAM6**



**Mark the date:**  
11–16 September 2016

## The Atmospheric System and its Interactions

### ASI1/NWP1 Dynamical meteorology and predictability of high impact weather

**Conveners:** Thomas Frisius; Timothy Hewson

**Co-Conveners:** Frank Lunkeit; Alessandro Dell'Aquila; Christian Franzke; Suzanne Gray

**Lecture Room:** Vitosha

**14:00–15:40**

**Chairperson(s):** Thomas Frisius

**14:00–14:15: EMS2015-99**

How orography affects jet tilt biases in climate models

**Felix Pithan**, Ted Shepherd

University of Reading, Department of Meteorology, United Kingdom (f.pithan@reading.ac.uk)

**14:15–14:30: EMS2015-292**

A climatology of poleward moisture transport by southern hemisphere extra-tropical cyclones

**Victoria Sinclair**, Helen Dacre

University of Helsinki, Division of Atmospheric Sciences, Department of Physics, Helsinki, Finland (Victoria.Sinclair@helsinki.fi)

**14:30–14:45: EMS2015-266**

Modulation of the Semiannual Oscillation Associated with Stratospheric Sudden Warming Events

**Toshihiko Hirooka**, Tsuyoshi Ohata, Nawo Eguchi  
Department of Earth and Planetary Sciences, Kyushu University, Fukuoka, Japan (hirook@geo.kyushu-u.ac.jp)

**14:45–15:00: EMS2015-212**

Winter precipitation variability during the western atmospheric circulation in Central Poland

**Piotr Piotrowski**, Joanna Jedruszkiewicz

Department of Meteorology and Climatology, University of Lodz, Poland (janos33@wp.pl)

**15:00–15:15: EMS2015-153**

Eta vs Sigma: Forecasts of extreme precipitation in parts of the Balkans in May 2014 using the Eta regional model

**Dragana Marjanovic**, Katarina Veljovic

University of Belgrade, Faculty of Physics, Serbia (marjanovicdragana@yahoo.com)

**15:15–15:25:**

Introduction to Posters

**END OF ORAL PROGRAMME ASI1/NWP1**

### ASI2 Dynamics, monsoon circulations and teleconnections on anomalous weather over East Asia

**Convener:** Yafei Wang

**Co-Conveners:** Cholaw Bueh; Donghai Wang; Dehai Luo

**Lecture Room:** Kyoto

**17:00–19:00**

**Chairperson(s):** Yafei Wang and Cholaw Bueh

**17:00–17:15: EMS2015-262**

Additive linearity of atmospheric responses to Arctic sea ice reduction and La Nina

**Shuanglin Li**, Zhe Han, Yongqi Gao, Ping Zao

Institute of Atmospheric Physics, CAS (shuanglin.li@mail.iap.ac.cn)

**17:15–17:30: EMS2015-260**

Impact of ENSO on the thermal condition over the Tibetan Plateau

**Yafei Wang**, Xiaoyu Xu

Chinese Academy of Meteorological Sciences, State key laboratory of severe weather, Beijing, China (yfwang@cma.cma.gov.cn)

**17:45–18:00: EMS2015-296**

Influence of the Preceding Arctic Sea Ice and Eurasian Snow Cover Anomalies on the Urals Blocking during Summer

**Ruonan Zhang**, Weijing Li, Chenghu Sun

Chinese Academy of Meteorological Sciences, Beijing, China (zhangrn2010@126.com), National Climate Center, China Meteorological Administration, Beijing, China

**18:00–18:15: EMS2015-162**

Large-Scale Circulation Features Typical of Wintertime Extensive and Persistent Low Temperature Events in East Asia

**Cholaw Bueh**, Zuwei Xie

ICCES, Institute of Atmospheric Physics, Chinese Academy of Sciences, China (bueh@lasg.iap.ac.cn)

**18:15–18:30: EMS2015-165**

Precursory Signals of the Extensive and Persistent Extreme Cold Events in China

**Jingbei Peng**, Cholaw Bueh

The International Center for Climate and Environment Sciences, Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, China (pengjingbei@mail.iap.ac.cn)

**18:30–18:45: EMS2015-188**

Different Types of Cold Vortex Circulations over Northeast China and Their Weather Impacts

**Zuwei XIE**, Cholaw BUEH

Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, China (xiezuwei@mail.iap.ac.cn)

**18:45–19:00: EMS2015-52**

The Positive North Atlantic Oscillation, European Blocking and Middle East Snowstorm  
**Yao Yao**, Dehai Luo  
 RCE-TEA, Institute of Atmospheric Physics, Beijing, China (yaoyao@tea.ac.cn)

**END OF ORAL PROGRAMME ASI2****ASI9 Atmospheric hazards**

**Convener:** Fulvio Stel

**Co-Conveners:** Dario Giaiotti; Jordi Mazon; Sante Laviola

**Lecture Room:** Vitosha

**17:00–19:00**

**Chairperson(s):** Jordi Mazon Sante Laviola

**17:00–17:15: EMS2015-135**

Heat waves over Central Europe in regional climate models: evaluation and future projections  
**Ondrej Lhotka**, Jan Kyselý  
 Institute of Atmospheric Physics CAS, Prague, Czech Republic (ondrej.lhotka@ufa.cas.cz), Global Change Research Centre CAS, Brno, Czech Republic, Faculty of Science, Charles University, Prague, Czech Republic

**17:15–17:30: EMS2015-267**

Flash heat and flash cold phenomena in the Iberian Peninsula since 1900  
**Jordi Mazon**, Jacob Cortés, Víctor Cortés, David Pino  
 Technical University of Catalonia, Department of Applied Physics, Castelldefels - Barcelona, Spain (jordi.mazon@upc.edu)

**17:30–17:45: EMS2015-269**

Transdisciplinary and multiscale reconstruction of the major flash floods  
**Jordi Mazon**, Laura Romero, David Pino, Josep Carles Balasch, Josep Lluís Ruiz-Bellet, Jordi Tuset, Mariano Barriendos  
 Technical University of Catalonia, Department of Applied Physics, Castelldefels - Barcelona, Spain (jordi.mazon@upc.edu), Escola d'Enginyeria de Telecomunicació i Aeroespacial de Castelldefels (EETAC), Universitat Politècnica de Catalunya · BarcelonaTech, Barcelona, Spain

**17:45–18:00: EMS2015-324**

Identification of the large-scale processes that lead to UK summer extreme hourly rain  
**Adrian Champion**, Richard Allan  
 University of Reading, Department of Meteorology, United Kingdom (a.j.champion@reading.ac.uk)

**18:00–18:15: EMS2015-617**

Risk assessment for natural hazards in Croatia  
**Melita Percec Tadic**, Branka Ivancan-Picek, Alica Bajic  
 Meteorological and Hydrological Service, Research and Development Division, Zagreb, Croatia (melita.percec.tadic@cirus.dhz.hr)

**18:15–18:30: EMS2015-506**

Ice and wet snow storms - vanishing or underestimated hazard in a global warming climate - the case from Bulgaria  
**Dimitar Nikolov**  
 National Institute of Meteorology and Hydrology, Bulgaria (dimitar.nikolov@meteo.bg)

**18:30–18:45: EMS2015-94**

Lightning climatology over the Mediterranean  
**Vassiliki Kotroni**, Konstantinos Lagouvardos  
 National Observatory of Athens, Institute of Environmental Research and Sustainable Development, Athens, Greece (kotroni@meteo.noa.gr)

**18:45–19:00:**

Posters Short Presentation

**END OF ORAL PROGRAMME ASI9**

## Climate

### Understanding processes and climate change

### CL4 Climate change detection, assessment of trends, variability and extremes

**Convener:** Albert M.G. Klein Tank

**Co-Conveners:** Monika Lakatos; Martine Rebetez

**Lecture Room:** Sofia III

**14:00–16:00**

**Chairperson(s):** Albert Klein Tank

**14:00–14:15: EMS2015-511**

Intercomparison of extra-tropical cyclones in nine reanalysis datasets

**Xiaolan L. Wang**, Yang Feng, Rodney Chan, Victor Isaac

Environment Canada, Climate Research Division, Toronto, Canada (xiaolan.wang@ec.gc.ca)

**14:15–14:30: EMS2015-54**

High resolution reanalysis of historical storms in France  
**Jean-Michel Soubeyrou**, Michel Schneider, Jacques Richon

Direction de la Climatologie, Météo-France, Toulouse, France (jean-michel.soubeyrou@meteo.fr)

**14:30–14:45: EMS2015-114**

Detecting changes in the frequency of high impact weather events using circulation analogue statistics

**Sabine Radanovics**, Pascal Yiou

Laboratoire des Sciences du Climat et de l'Environnement, IPSL, UMR 8212 CEA-CNRS-UVSQ, Gif-sur-Yvette, France (sabine.radanovics@lsce.ipsl.fr)

**14:45–15:00: EMS2015-379**

European long lasting dry and wet phases and atmospheric circulation - Variability and trends

**Stephanie Hänsel**, Wiebke Miketta, Andreas Hoy, Jörg Matschullat

TU Bergakademie Freiberg, Interdisciplinary Environmental Research Centre, Freiberg, Germany (stephanie.haensel@ioez.tu-freiberg.de)

**15:00–15:15: EMS2015-34**

Importance of a good density rain gauge network to better estimate weather radar measurements

**Fiorella Acquotta**, Alice Baronetti, Simona Fratianni, Diego Guenzi

University of Turin, Earth Science, Turin, Italy (fiorella.acquotta@unito.it)

**15:15–15:30: EMS2015-244**

An Assessment of Historical and Future Hydro-Climatic Extremes over Key Watersheds within Western Canada  
**Barrie Bonsal**, Charles Cuell

Environment Canada, Saskatoon, Canada (barrie.bonsal@ec.gc.ca)

**15:30–15:45: EMS2015-144**

Simulated versus Satellite Retrieval Distribution Patterns of the Snow Water Equivalent over Southeast Europe

**Hristo Chervenkov**

NIMH - BAS

**15:45–16:00: EMS2015-539**

The snow disaster in the Rhodope mountains in march 2015

**Anelia Gocheva**, Krastina Malcheva, **Dimitar Nikolov**, Ilian Gospodinov

National Institute of Meteorology and Hydrology, Bulgaria (Anelia.Gocheva@meteo.bg)

**16:00 Coffee break**

**17:00–19:00**

**Chairperson(s):** Aryan van Engelen

**17:00–17:15: EMS2015-398**

Local climate extremes and their linkage to large-scale atmospheric features. Part 1 - Ideas and implementations

**Arne Spekat**, Wolfgang Enke

Climate and Environment Consulting Potsdam GmbH, Potsdam, Germany (arne.spekat@cec-potsdam.de)

**17:15–17:30: EMS2015-399**

Local climate extremes and their linkage to large-scale atmospheric features. Part 2 – Lessons learned when describing convective systems with a statistical methodology

**Arne Spekat**, Wolfgang Enke

Climate and Environment Consulting Potsdam GmbH, Potsdam, Germany (arne.spekat@cec-potsdam.de)

**17:30–17:45: EMS2015-373**

Generating percentile maps and bubble diagrams for extreme events using a grid data base solution

**Peter Bissolli**, Karsten Friedrich, Hermann Mächel,

Stefan Rösner, Andrea Kreis, Maya Körber

Deutscher Wetterdienst, Offenbach, Germany (peter.bissolli@dwd.de)

**17:45–18:00: EMS2015-372**

Recent climatic changes and relation to weather patterns in a trans-boundary mountainous region in Central Europe

**Andreas Hoy**, Nils Feske, Petr Skalak, Petr Stepánek, Andreas Schmitt, Lenka Hájková, Lars Schöder, Anke Hahn, Petra Schneider, Wilfried Küchler, Pavel Zahradníček

Saxon State Agency for Environment, Agriculture and Geology, Dresden, Germany, TU Bergakademie Freiberg, Interdisciplinary Environmental Research Centre, Freiberg, Germany (andreas.hoy@ioez.tu-freiberg.de)

**18:00–18:15: EMS2015-568**

Growing degree days variability in Central Europe in response to contemporary climate changes

**Agnieszka Wypych**, Zbigniew Ustrnul, Agnieszka Sulikowska, Malgorzata Sliwinska, Frank-M.

Chmielewski Jagiellonian University, Cracow, Poland

**18:15–18:30: EMS2015-411**

Heat waves and weather types persistency over Italy

**Marina Baldi**, Giovanni Dalu

CNR - Institute of Biometeorology, Roma, Italy  
(m.baldi@ibimet.cnr.it)

**18:30–18:45: EMS2015-233**

Recent changes in continentality indices over the Middle East and North Africa (MENA) region and their association with atmospheric circulation

**Ahmed Kenawy**, Matthew McCabe, Sayed M. Robaa  
King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia  
(kenawy@mans.edu.eg)

**18:45–19:00: EMS2015-138**

Climatology of heavy crown snow loads in the present and projected future climate of Finland

**Ilari Lehtonen**, Ari Venäläinen, Petri Hoppula, Matti Kämäräinen, Hilppa Gregow

Finnish Meteorological Institute, Helsinki, Finland  
(ilari.lehtonen@fmi.fi)

**END OF ORAL PROGRAMME CL4**



## Applications of Meteorology

### ECAM1 From Observations and NWP to Warnings and Impact Mitigation

**Convener:** Ken Mylne

**Co-Conveners:** P. Davies, Yong Wang, Bernhard Reichert

**Poster Area:** Sofia I

**Chairperson(s):** Yong Wang

**Introduction:** 15:50, Sofia II

**Attendance Time:** 16:15–17:00

**P1: EMS2015-332**

Communicating Uncertainty: Differences in Perspectives of Weather Forecasters, Emergency Managers and the General Public

**Thomas Kox**, Catharina Lueder

Freie Universität Berlin, Berlin, Germany (thomas.kox@fu-berlin.de), Hans-Ertel-Centre for Weather Research, Berlin, Germany

**P2: EMS2015-408**

The impact of a large water reservoir on local temperature by using the COSMO NWP model

**Zbynek Sokol**, Kristyna Bartunkova, Lukas Pop  
Institute of Atmospheric Physics, Praha, Czech Republic (sokol@ufa.cas.cz)

**P3: EMS2015-497**

Synoptic and Mesoscale Investigation of Ice Storms in Bulgaria

**Dimitar Nikolov**, Uwe Ulbrich

National Institute of Meteorology and Hydrology, Bulgaria (dimitar.nikolov@meteo.bg)

**P4: EMS2015-593**

Predictability of Winter Storm Damages

**Tobias Pardowitz**, Robert Osinski, Uwe Ulbrich  
Freie Universität Berlin, Institut f. Meteorologie, Berlin, Germany (tobias.pardowitz@met.fu-berlin.de), Hans-Ertel-Zentrum für Wetterforschung, Berlin, Germany

**P5: EMS2015-221**

The Decision Support System AutoWARN for the Weather Warning Service at DWD

**Bernhard Reichert**, Jenny Glashoff, Reinhold Hess, Tamas Hirsch, Paul James, Christine Lenhart, Jan Paller, Cristina Primo, Wolfgang Raatz, Thorsten Schleinzer, Guido Schröder  
Deutscher Wetterdienst, Research and Development, Offenbach, Germany (bernhard.reichert@dwd.de)

**END OF POSTER PROGRAMME ECAM1**

### ECAM6 Understanding and Improving the Socio-Economic Benefits of Forecasts

**Convener:** Adriaan Perrels

**Poster Area:** Sofia I

**Chairperson(s):** Adriaan Perrels

**Introduction:** 15:50, Sofia II

**Attendance Time:** 16:15–17:00

#### Assessing Socioeconomic Benefits of Weather and Climate Services

**P10: EMS2015-129**

Analysis on the Intention to Purchase Index-based Weather Insurance and Development for wind power weather insurance index

**Ki-Jun Park**, In-Gyum Kim, Jeong-Yun Kim, Cheol-Hong Park

National Institute of Meteorological Research, Seogwipo-si, Jeju-do, Republic of Korea (pkj@korea.kr)

**P11: EMS2015-184**

UrbaMet: Impact of weather on the efficiency of urban cleaning services. The case of Barcelona

**Marc J. Prohom**, Anna Miró, Jèssica Amaro  
Meteorological Service of Catalonia, Area of Climatology, Barcelona, Spain (mprohom@meteo.cat)

**END OF POSTER PROGRAMME ECAM6**

## The Atmospheric System and its Interactions

### ASI1/NWP1 Dynamical meteorology and predictability of high impact weather

**Conveners:** Thomas Frisius, Timothy Hewson  
**Co-Conveners:** Frank Lunkeit, Alessandro Dell'Aquila, Christian Franzke, Suzanne Gray  
**Poster Area:** Sofia I  
**Introduction:** 15:30, Vitosha  
**Attendance Time:** 16:15–17:00

#### P12: EMS2015-147

The role of blocking in the summer 2014 collapse of Etesians over the eastern Mediterranean  
**Evangelos Tyrlis**, Filippos Tymvios, Christos Giannakopoulos, Jos Lelieveld  
 The Cyprus Institute, Energy, Environment and Water Research Center (EEWRC), Nicosia, Cyprus  
 (e.tyrlis@cyi.ac.cy)

#### P13: EMS2015-176

Variations in the mesosphere and the lower thermosphere associated with stratospheric sudden warming events  
 Koki Iwao, **Toshihiko Hirooka**  
 Department of Earth Planetary Science, Kyushu University, Fukuoka, 812-8581 Japan  
 (hirook@geo.kyushu-u.ac.jp)

#### P14: EMS2015-406

Diagnosis and forecast verification of an intense cyclogenesis during IOP 18 of HYMEX-SOP1  
**M.Ángeles Picornell**, Joan Campins, Agustí Jansà  
 AEMET, DELEGACION TERRITORIAL EN ILLES BALEARS, PALMA DE MALLORCA, Spain  
 (mpicornella@aemet.es)

#### P15: EMS2015-259

Development and verification of a non-hydrostatic global atmospheric model using horizontal spectral element and vertical finite difference method on a cubed sphere  
**Suk-Jin Choi**, Kyung-Hee Seol, Song-You Hong  
 Korea institute of atmospheric prediction systems, Seoul, Republic of Korea (sj.choi@kiaps.org)

#### P16: EMS2015-486

Factors affecting atmospheric vertical motions as analyzed with a generalized omega equation and Open IFS model  
**Oleg Stepanyuk**, Jouni Räisänen  
 University of Helsinki, Department of Physics, Finland,  
 oleg.stepanyuk@helsinki.fi

#### END OF POSTER PROGRAMME ASI1/NWP1

### ASI2 Dynamics, monsoon circulations and teleconnections on anomalous weather over East Asia

**Convener:** Yafei Wang  
**Co-Conveners:** Cholaw Bueh, Donghai Wang, Dehai Luo  
**Poster Area:** Sofia I  
**Chairperson(s):** Prof. Shuanlin Li  
**Introduction:** 16:00, Vitosha  
**Attendance Time:** 16:15–17:00

#### P17: EMS2015-391

Summer precipitation extremes in Yellow River Loop Valley and the possible cause  
**Yina Diao**  
 Ocean university of China, College of Physical and Environmental Oceanography, China  
 (diaoyin@ouc.edu.cn)

#### P18: EMS2015-97

Positive Correlation between the Silk Road Pattern and the Meridional Displacement of the Upper-Level Mid-Latitude Jet  
**Xiaowei Hong**, Riyu Lu  
 State Key Laboratory of Numerical Modeling for Atmospheric Sciences and Geophysical Fluid Dynamics, Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, China, University of the Chinese Academy of Sciences, Beijing, China

#### P19: EMS2015-96

Break of the Western North Pacific Summer Monsoon in Early August  
**Ke Xu**, Riyu Lu  
 State Key Laboratory of Numerical Modeling for Atmospheric Sciences and Geophysical Fluid Dynamics, Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, China, University of the Chinese Academy of Sciences, Beijing, China

#### P20: EMS2015-186

Relationship between Summer Rainfalls over North China and India and Its Genetic Analysis  
**Dawei Lin**, Cholaw Bueh, Zuowei Xie  
 Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, China (lindawei@mail.iap.ac.cn), University of Chinese Academy of Sciences, Beijing, China

#### P21: EMS2015-263

External forcing in modulating the relationship of the Atlantic Multidecadal Variability with the Indian Summer Monsoon  
**Feifei Luo**, Yongqi Gao, Lea Svendsen, Noel Keenlyside, Shuanglin Li  
 Nansen-Zhu International Research Centre and Climate Change Research Center, Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, China  
 (luoifeifei212@mail.iap.ac.cn)

#### END OF POSTER PROGRAMME ASI2

## ASI9 Atmospheric hazards

**Convener:** Fulvio Stel

**Co-Conveners:** Dario Giaiotti, Jordi Mazon, Sante Laviola

**Poster Area:** Sofia I

**Chairperson(s):** Fulvio Stel

**Introduction:** 18:45, Vitosha

**Attendance Time:** 16:15–17:00

### P33: EMS2015-45

Trends and variability of joint distribution extreme climate indices over Greece

**Iliana Polychroni**, Panagiotis Nastos, Evangelos Baltas

Laboratory of Climatology and Atmospheric Environment, Faculty of Geology and Geoenvironment, National and Kapodistrian University of Athens, University Campus, Athens, Greece, Department of Water Resources and Environment, Faculty of Civil Engineering, National Technical University of Athens, Athens, Greece

### P34: EMS2015-82

Hail characteristics in Northern Greece

**Dimitrios Foris**, Vasileios Foris  
Meteorological Applications Center, EL.G.A., Thessaloniki, Greece (d.foris@yahoo.com)

### P35: EMS2015-246

Analysis of an episode of heavy rainfall with flooding in Kadagua watershed. 29-31 January 2015 case  
Joseba Egaña, **Santiago Gaztelumendi**, Olatz Principe, Maialen Martija

Basque Meteorology Agency (Euskalmet), Tecnalia - Energy and Environment Division - Meteorology Area.

### P36: EMS2015-247

A case study of local floods in Añarbe area (Basque Country)

Joseba Egaña, **Santiago Gaztelumendi**, Virginia Palacio, Maialen Martija

Basque Meteorology Agency (Euskalmet), Tecnalia - Energy and Environment Division - Meteorology Area.

### P37: EMS2015-488

Probabilistic Analysis of Daily Precipitation Maxima over Greece

Katerina K. Argyrouli, Elissavet G. Feloni, **Panagiotis T. Nastos**

Laboratory of Climatology & Atmospheric Environment, Faculty of Geology & Geoenvironment, University of Athens, University Campus, 157 84, Athens, Greece

### P38: EMS2015-545

Impact analysis of atmospheric instability indices in forecasting process using data mining methods

Nikolaos Kamperakis, Ioannis Matsangouras,

**Panagiotis Nastos**, Ioannis Pytharoulis

Laboratory of Climatology and Atmospheric Environment, Faculty of Geology and Geoenvironment, University of Athens, University Campus, Athens, Greece

### P39: EMS2015-610

A persistent fog in Sofia in January 2014: Analysis by equivalent potential temperature

**Anastasiya Stoycheva**, Stilian Evtimov  
National Institute of Meteorology and Hydrology, Sofia, Bulgaria (anastassia.stoycheva@meteo.bg)

**END OF POSTER PROGRAMME ASI9**

## Climate

### Understanding processes and climate change

#### CL4 Climate change detection, assessment of trends, variability and extremes

**Convener:** Albert M.G. Klein Tank

**Co-Conveners:** Monika Lakatos, Martine Rebetez

**Poster Area:** Sofia I

**Chairperson(s):** Albert Klein Tank

**Introduction:** 16:00, Sofia III

**Attendance Time:** 16:15–17:00

##### P85: EMS2015-378

Consistency between observed and projected seasonal trends in dry periods and heavy precipitation events in Central Eastern Germany

**Stephanie Hänsel**

TU Bergakademie Freiberg, Interdisciplinary Environmental Research Centre, Freiberg, Germany (stephanie.haensel@ioez.tu-freiberg.de)

##### P86: EMS2015-156

Analysis of wind for the Carpathian Basin using homogenized and simulated data sets

**Csilla Peline Nemeth**, Judit Bartholy, Rita Pongracz, Kornelia Radics

Geoinformation Service of HDF, Budapest, Hungary (pelinenemeth.csilla@mhtehi.gov.hu)

##### P87: EMS2015-571

Temporal and spatial variability of frost free period in Central Europe and its circulation background

**Agnieszka Wypych**, Agnieszka Sulikowska, Malgorzata Sliwinska, Zbigniew Ustrnul, Frank-M. Chmielewski

Jagiellonian University, Cracow, Poland

##### P88: EMS2015-440

Assessment of meteorological drought in the Carpathian Mountains region during 1961-2010 by means of various indices

**Marius-Victor Birsan**, Sorin Cheval, Alexandru Dumitrescu, Dana Magdalena Micu

Meteo Romania, Department of Climatology, Bucharest, Romania

##### P89: EMS2015-343

Randomized MSSA in finding the significant oscillations in the 20th century reanalysis data

**Teija Seitola**, Johan Silen, Heikki Järvinen

Finnish Meteorological Institute, Helsinki, Finland (teija.seitola@fmi.fi)

##### P90: EMS2015-180

Predictability of daily temperature series determined by maximal Lyapunov exponent

**Jan Skorepa**, Jiri Miksovsky, Ales Raidl

Charles University in Prague, Department of Atmospheric Physics, Czech Republic (skorejan@seznam.cz)

##### P91: EMS2015-287

Temporal evolution of extreme temperature events in the Czech Republic: A comparison among seasons

**Anna Valeriánová**, Lenka Crhová, Eva Holtanová

CHMI, Climatology, Prague, Czech Republic (anna.valerianova@chmi.cz)

##### P92: EMS2015-336

Heat Stress in South Romania in Connection to Large-Scale Circulation Patterns

**Simona Andrei**, Dana Micu, Nicu Barbu, Carmen Dragota

National Institute of R&D in Optoelectronics, Remote Sensing Department, Magurele - Bucharest, Romania (simona.andrei@inoe.ro)

##### P93: EMS2015-388

Assessment of impact indicators for extreme winter phenomena considering critical infrastructure

**Andrea Vajda**, Ilkka Juga, Matti Kämäräinen, Ilari Lehtonen, Hilppa Gregow

Finnish Meteorological Institute, Climate Service Centre, Helsinki, Finland (andrea.vajda@fmi.fi)

##### P94: EMS2015-400

Heavy precipitation in mid-elevation mountain systems in Central Europe: case study of the Krüné hory/Erzgebirge (Czech Republic, Germany)

**Jana Minárová**, Miloslav Müller, Stephanie Hänsel, Jörg Matschullat, Alain Clappier

Department of Physical Geography and Geoecology, Faculty of Science, Charles University, Prague, Czech Republic (jana.minarova@natur.cuni.cz), Laboratoire Image, Ville, Environnement, National Center for Scientific Research & University of Strasbourg, France, TU Bergakademie Freiberg, Interdisciplinary Environmental Research Centre, Germany

##### P95: EMS2015-394

Rainfall Characteristics and Trends for the Palestinian Territories, 1951-2010

Kamal Zurba, **Stephanie Hänsel**

TU Bergakademie Freiberg, Interdisciplinary Environmental Research Centre, Freiberg, Germany (stephanie.haensel@ioez.tu-freiberg.de)

##### P96: EMS2015-227

Intraseasonal differences of the stratospheric signal on temperature and precipitation anomalies over Europe during wintertime

Adelaida Díaz-Durán, **Encarna Serrano**

Dept. Geophysics and Meteorology, Universidad Complutense de Madrid, Spain (eserrano@ucm.es)

##### P97: EMS2015-566

Relationship between precipitation and hydrological extremes in the Polish Carpathians in the last several decades

**Agnieszka Wypych**, Zbigniew Ustrnul

Jagiellonian University, Cracow, Poland

##### P98: EMS2015-641

Detection of main factors driving precipitation in Poland

**Joanna Wibig**

University of Lodz, Poland (zameteo@uni.lodz.pl)

Tuesday, 08 September 2015					
Room	Sofia II	Sofia III	Kyoto	Vitosha	Room
09:00–10:30	<b>CL3:</b> Historical climatology and paleo-climatology	<b>OBS4:</b> Meteorological observations from ground and space-based Global Navigation Satellite System  <b>10:15: Poster Introduction</b>	<b>ASI15:</b> Phenology and agrometeorology (09:00-09:45)  <b>09:45: P03: Poster Introduction ASI15, ASI7/CE6 and ASI13</b>	<b>ASI5:</b> Coastal meteorology and oceanography	09:00–10:30
10:30	Coffee Break				10:30
11:00–13:00	<b>CL5:</b> Climate prediction and scenarios on decadal to centennial timescales <b>12:45 poster introductions</b>	<b>OBS5:</b> Recent Advances in Climate (Services) Ready Precipitation Monitoring	<b>ASI3:</b> Meteorology, climate and space weather	<b>ASI5 continued</b> (11:00 - 12:00) <b>ASI6:</b> Modeling the dynamics of coupled processes (12:00 - 13:00)	11:00–13:00
13:00	Lunch Break				13:00
14:00–15:30	<p><b>Award Ceremonies (room Sofia II):</b> Young Scientist Travel Awards, 2014 Poster Award, EMS Young Scientist Award, EMS Outstanding Contribution Award, EMS Media Awards</p> <hr/> <p>EMS Tromp Award Harry Otten Prize</p> <hr/> <p><b>EMS Silver Medal: Laudatio and Silver Medal Lecture</b></p> <p>Detailed programme: see page 17.</p>				14:00–15:30
15:45		<b>P04: Poster Introduction ASI10 and OBS5</b>	<b>P05: Poster Introduction CL3</b>	<b>P06 Poster Introduction ASI5 and CE5</b>	15:45
16:00–17:00	<p><b>Poster Session &amp; Coffee Break   Foyer and Room Sofia I</b></p> <p>Poster authors in attendance time for the following sessions: ASI programme group: <b>ASI3</b> (P22 - P23), <b>ASI5</b> (P24 - P28), <b>ASI7/CE6</b> (P29 - P32), <b>ASI10</b> (P40 - P46), <b>ASI15</b> (P66 - P67) CL programme group: <b>CL3</b> (P82 - P84), <b>CL5</b> (P99 - P108) CE programme group: <b>CE5</b> (P116 - P117) OBS programme group: <b>OBS4</b> (P121 - P125), <b>OBS5</b> (P126 - P127)</p>				16:00–17:00
17:00–19:00	<b>CL5 continued</b>	<b>ASI10:</b> Boundary-layer physics and parameterizations in weather and climate models	<b>ASI7/CE6:</b> Human Biometeorology  <b>18:45 EMS Tromp Award Presentation</b>	<b>CE5:</b> Education  <b>17:00 GNSS Video Presentation</b>	17:00–19:00
Room	Sofia II	Sofia III	Kyoto	Vitosha	Room

In the detailed daily programme (on page 34 to 49) the related ASI, CL, CE and OBS sessions are listed in the following order: ASI3, ASI5, ASI6, ASI7/CE6, ASI10, ASI15, CL3, CL5, CE5, OBS4, OBS5.

#### Poster display time Monday to Wednesday

Authors are kindly asked to put up their posters as soon as possible within the allocated display time in order to enable the conference participants to view their posters at any time within the display days, and to take them down on Wednesday evening between 18:00–19:30. Posters that have not been removed within this dismantling time will be removed and disposed of

## Special Events

### SPS2 Award Ceremony

Lecture Room: Sofia II

14:00–15:35

Chairperson(s): Horst Böttger (EMS President)

#### Conference awards and grants

14:00–14:20:

EMS Young Scientist Travel Awards  
 2014 Outstanding Poster Award  
 EMS Young Scientist Award  
 EMS Media Awards: Outreach & Communication  
 Award, TV Weather Forecast Award and the Journalist  
 Award  
 EMS Outstanding Contribution Award

#### Tromp Foundation

14:20–14:30:

EMS Tromp Award:  
<http://www.emetsoc.org/awards/other-awards/ems-tromp-award>

#### Harry Otten Foundation

14:30–14:55:

The Harry Otten Prize for Innovation in Meteorology will be presented by Harry Otten.

#### Silver Medal Award Ceremony

14:55–15:00:

Laudation: Alain Ratier, EUMETSAT Director-General

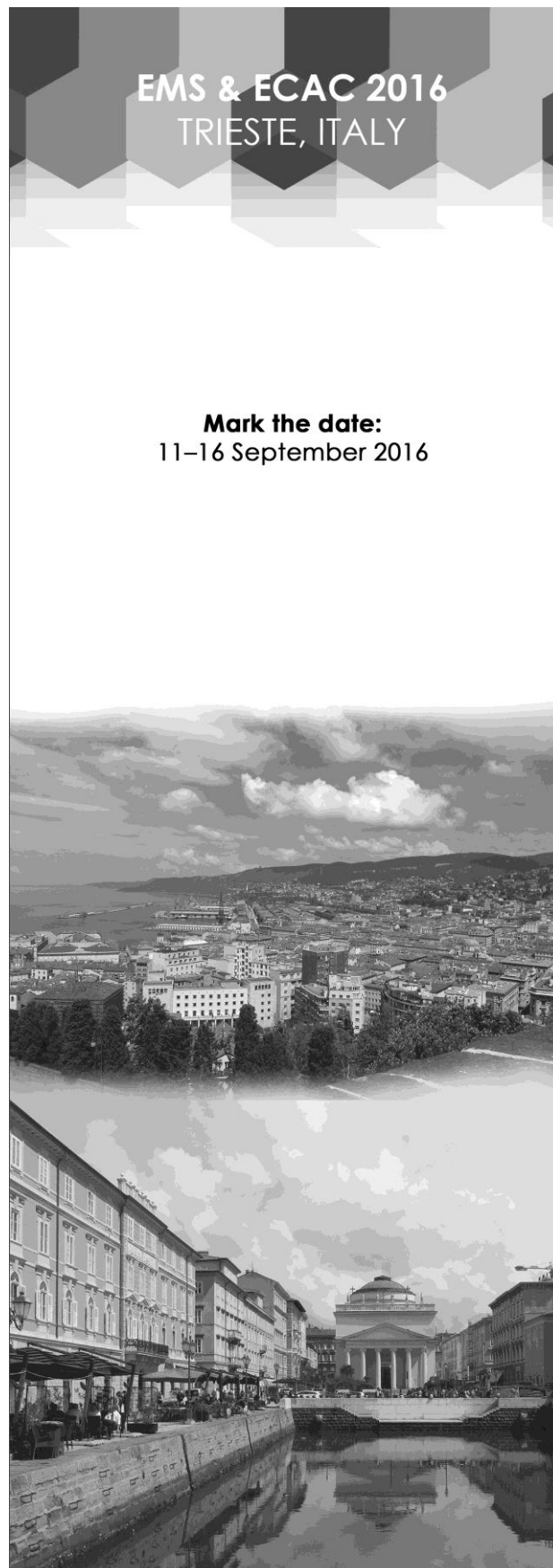
15:00–15:05:

Presentation of Silver Medal

15:05–15:35:

Silver Medal Lecture by **Anton Eliassen**: "Meteorology and Society: Air pollution, weather forecasting and free data"

**END OF ORAL PROGRAMME SPS2**



**Mark the date:**  
 11–16 September 2016

## The Atmospheric System and its Interactions

### ASI3 Meteorology, climate and space weather: science, applications and coordination

**Convener:** Mauro Messerotti

**Co-Conveners:** David R. Jackson; Annika Seppälä; Suzy Bingham

**Lecture Room:** Kyoto

**11:00–13:00**

**Chairperson(s):** Mauro Messerotti

**11:00–11:30: EMS2015-637**

Recent development of space weather activities within the World Meteorological Organization

**Jérôme Lafeuille**

World Meteorological Organization (Switzerland)

**11:30–12:00: EMS2015-478**

Space weather services at the Finnish Meteorological Institute (solicited)

**Tiera Laitinen**, Ari Viljanen, Minna Palmroth, Kirsti Kauristie

Finnish Meteorological Institute, Helsinki, Finland  
(tiera.laitinen@fmi.fi)

**12:00–12:15: EMS2015-89**

Application of NWP verification methods to verify space weather forecasts

**David R. Jackson**, Suzy Bingham, Ed Pope

Met Office, Space Weather Research Group, Exeter, United Kingdom (david.jackson@metoffice.gov.uk)

**12:15–12:45: EMS2015-279**

Solar-cycle effect of energetic electron precipitation seen in mesospheric ozone (solicited)

**Monika E. Andersson**, Pekka T. Verronen, Craig J. Rodger, Mark A. Clilverd, Annika Seppälä, Shuhui Wang, Bonar R. Carson

Finnish Meteorological Institute, Earth Observation Unit, Helsinki, Finland (monika.andersson@fmi.fi)

**12:45–13:00: EMS2015-609**

The whole atmosphere response to century-scale changes in the Earth's magnetic field

**Ingrid Crossen**, Hanli Liu, Hua Lu

British Antarctic Survey, Cambridge, United Kingdom (inos@bas.ac.uk)

**END OF ORAL PROGRAMME ASI3**

### ASI5 Coastal meteorology and oceanography

**Convener:** Mario Marcello Miglietta

**Co-Conveners:** Anna Maria Sempreviva; Manel Grifoll; Silvio Gualdi

**Lecture Room:** Vitosha

**09:00–10:30**

**Chairperson(s):** Silvio Gualdi

**09:00–09:15: EMS2015-389**

Ocean-atmosphere dynamics in a wind-jet region (Ebre Delta shelf, NW Mediterranean Sea)

**Manel Grifoll**, Jorge Navarro, Laura Ràfols, Elena Pallarès, Manuel Espino, Ana Palomares, Pedro Jimenez

LIM/UPC, Barcelona, Spain (manel.grifoll@upc.edu), CIIRC, Barcelona, Spain

**09:15–09:30: EMS2015-315**

Intense air-sea exchanges and heavy rainfall: impact of the northern Adriatic SST

**Paolo Stocchi**, Silvio Davolio

ISAC - CNR, Bologna, Italy (s.davolio@isac.cnr.it)

**09:30–09:45: EMS2015-265**

Frontogenesis at the whole mesoscale in the West Mediterranean basin: from raincells to rainbands

**Jordi Mazon**, David Pino

Technical University of Catalonia, Department of Applied Physics, Castelldefels - Barcelona, Spain (jordi.mazon@upc.edu)

**09:45–10:00: EMS2015-535**

Reducing the uncertainty of near-shore wind estimations using wind lidars and mesoscale models

**Rogier Floors**, Nikola Vasiljevic, Guillaume Lea, Alfredo Peña

DTU, Wind Energy, Department of Wind Energy, Roskilde, Denmark (rofl@dtu.dk)

**10:00–10:15: EMS2015-555**

Numerical modeling and synoptic analysis of an intense coastal erosion event in Thessaly, Greece

**Panagiotis T. Nastos**, Ioannis T. Matsangouras, Konstantinos Lazogiannis, Serafim Poulos

Department of Geography and Climatology, Faculty of Geology and Geoenvironment, National and Kapodistrian University of Athens, University Campus, GR 15784 Athens, Greece (nastos@geol.uoa.gr)

**10:15–10:30: EMS2015-517**

Vertical Profiles of Wind & Turbulence above the Southern North Sea: Micro- & Meso-Scale Model Performance and the Accuracy of Measurements

**Jens Tambke**, John A. T. Bye, Gerald Steinfeld, Hauke Wurps, Jörg-Olaf Wolff

Institute of Physics, University of Oldenburg, Oldenburg, Germany (jens.tambke@uni-oldenburg.de)

**10:30 Coffee break**

**11:00–12:00****Chairperson(s):** Manel Grifoll**11:00–11:15: EMS2015-589**

Climate response to ocean temperature variations along the South Atlantic coast of Africa

**Stefano Materia**, William Large, Joe Tribbia, Gokhan Danabasoglu, Silvio Gualdi, Antonio Navarra  
Centro Euro-Mediterraneo sui Cambiamenti Climatici, Bologna, Italy (stefano.materia@cmcc.it)**11:15–11:30: EMS2015-382**

The diurnal cycle of coastal cloudiness over west Iberia using the CM-SAF cloud data record (CLAAS) and a WRF regional climate simulation

**Joao P. A. Martins**, Rita M. Cardoso, Pedro M. M. Soares, Isabel F. Trigo, Margarida Belo-Pereira, Nuno Moreira, Ricardo Tomé  
IPMA, LSA-SAF, Lisboa, Portugal  
(joao.p.martins@ipma.pt), IDL, University of Lisbon**11:30–11:45: EMS2015-178**

Intrusion of coastal waters into the pelagic eastern Mediterranean: in situ and satellite-based characterization

**Eyal Heifetz**, Shai Efrati, Yoav Lehahn, Eyal Rahav, Nurit Kress, Barak Herut, Isaac Gertman, Ron Goldman, Michael Lazar  
Tel-Aviv University, Geophysics and Planetary Sciences, Tel-Aviv, Israel (eyalh@post.tau.ac.il)**11:45–12:00: EMS2015-16**

Potential impact of the coloured Amazon and Orinoco plume on tropical cyclone intensity

Christina Newinger, **Ralf Toumi**  
Imperial College, United Kingdom  
(r.toumi@imperial.ac.uk)**END OF ORAL PROGRAMME ASI5****ASI6 Modeling the dynamics of coupled atmosphere-wave-ocean processes****Convener:** Sandro Carniel**Co-Conveners:** John C. Warner; Peter Janssen; Huw Lewis**Lecture Room:** Vitosha**12:00–13:00****Chairperson(s):** Huw Lewis, Sandro Carniel**12:00–12:15: EMS2015-311**

UK Environmental Prediction - integration and evaluation at the convective scale

**Juan Manuel Castillo Sanchez**, Huw Lewis, David Pearson, Chris Harris, Martin Best, Andy Saulter, Lucy Bricheno, Ashley Brerton, Eleanor Blyth, Alberto Marinez de la Torre  
Met Office, FitzRoy Road, Exeter, Devon, EX1 3PB, United Kingdom**12:15–12:30: EMS2015-30**

On the use of coupled ocean-atmosphere-wave models in the Adriatic Sea: lessons from an intense CAO event

**Antonio Ricchi**, Francesco Barbariol, Alvise Benetazzo, Davide Bonaldo, Francesco M. Falcieri, Mario M. Miglietta, Mauro Sclavo, Sandro Carniel  
Università Politecnica delle Marche, Ancona, Italy (aricky84@gmail.com)**12:30–12:45: EMS2015-460**

Twenty-first Century Wave Climate Projections for Ireland: Assessing the Future Wave Energy Potential

**Sarah Gallagher**, Emily Gleeson, Ray McGrath, Roxana Tiron, Frédéric Dias  
Research, Environment and Applications Division, Met Éireann, Glasnevin Hill, Glasnevin, Dublin 9, Ireland, UCD School of Mathematical Sciences, University College Dublin, Belfield, Dublin 4, Ireland**12:45–13:00: EMS2015-256**

A coupled atmosphere-ocean-wave modeling approach for a Tropical Like Cyclone in the Mediterranean Sea.

**Sandro Carniel**, Antonio Ricchi, Francesco Barbariol, Alvise Benetazzo, Davide Bonaldo, Francesco M. Falcieri, Mauro Sclavo, Aniello Russo, Mario M. Miglietta  
CNR-ISMAR, Venice, Dept. Oceanography, Head, Venice, Italy (sandro.carniel@cnr.it)**END OF ORAL PROGRAMME ASI6****ASI7/CE6 Human Biometeorology****Convener:** Andreas Matzarakis**Co-Convener:** Tanja Cegnar**Lecture Room:** Kyoto**17:00–19:00****Chairperson(s):** Andreas Matzarakis**17:00–17:15: EMS2015-56**

Comparison of cold and heat related mortality in Vienna

**Andreas Matzarakis**, Lion Schöpfer, Ernest Rudel, Elisabeth Koch  
University of Freiburg, Freiburg, Germany  
(matzarak@uni-freiburg.de)**17:15–17:30: EMS2015-124**

Three dimensional mean radiant temperature estimations through airborne LiDAR and thermal Infrared images in urban area

**Tzu-Ping Lin**, Yu-Cheng Chen, Jin-King Liu, Andreas Matzarakis, Chih-Yu Chen  
National Cheng Kung University, Department of Architecture, Tainan, Taiwan**17:30–17:45: EMS2015-14**

Introducing a cumulative thermal index based on Physiologically Equivalent Temperature (PET) for the bioclimatic assessment of urban open spaces

**Ioannis Charalampopoulos**, Ioannis Tsiros, Andreas Matzarakis  
Agricultural University of Athens, Lab. of General and Agricultural Meteorology, Athens, Greece



**17:45–18:00: EMS2015-44 (YSTA)**

Present and Future Human Thermal Bioclimatic Conditions and Impacts on Cardiovascular Admissions in Crete Island, Greece

**Anastasia Blea**, Panagiotis Nastos  
National and Kapodistrian University of Athens, Geology and Geoenvironment, Climatology and Atmospheric Environment, Kaisariani Athens, Greece  
(ableta@geol.uoa.gr)

**18:00–18:15: EMS2015-272**

Felt temperature computations at the Bulgarian weather service

**Ilian Gospodinov**, Anna Tsenkova-Bratoeva  
National institute of meteorology and hydrology, Bulgaria (ilian.gospodinov@meteo.bg)

**18:15–18:30: EMS2015-55**

Curiosities in micro scale modeling for human-biometeorological assessment

**Andreas Matzarakis**  
University of Freiburg, Freiburg, Germany  
(matzarak@uni-freiburg.de)

**18:30–18:45: EMS2015-6**

Development of an approach to quantify thermal stress of livestock in Germany

Ronja Vitt, **Andreas Matzarakis**  
Chair of Meteorology and Climatology, University of Freiburg, Germany (ronja\_vitt@gmx.de)

**18:45–19:00:**

EMS Tromp Award  
**Bert G. Heusinkveld**

**END OF ORAL PROGRAMME ASI7/CE6**

## ASI10 Boundary-layer physics and parameterizations in weather and climate models

**Convener:** Sergej Zilitinkevich  
**Co-Convener:** Arakel Petrosyan  
**Lecture Room:** Sofia III

**17:00–19:00****17:00–17:30: EMS2015-102**

Why turbulence sustains in the free atmosphere? (solicited)

**Sergej Zilitinkevich**  
Finnish Meteorological Institute, Helsinki, Finland (sergej.zilitinkevich@fmi.fi), Division of Atmospheric Sciences, University of Helsinki, Finland, Department of Radio Physics, University of Nizhniy Novgorod, Russia

**17:30–17:45: EMS2015-121**

Dynamics of the nocturnal boundary layer in direct numerical simulation

**Ivo van Hooijdonk**, Arnold Moene, Herman Clercx, Judith Donda, Bas van de Wiel  
Eindhoven University of Technology, Fluid Dynamics Laboratory, Eindhoven, Netherlands  
(i.g.s.v.hooijdonk@tue.nl)

**17:45–18:00: EMS2015-62**

High-resolution large eddy simulations of stably stratified turbulence in free atmosphere

**Quentin Rodier**, Valéry Masson, Alexandre Paci, Pascal Marquet, Guylaine Canut  
CNRM-GAME, Toulouse, France  
(quentin.rodier@meteo.fr)

**18:00–18:15: EMS2015-613**

Validation of a high Resolution forecast modelling system against detailed mean flow and turbulence observations and state-of-the-art LES model simulations

**Reinder Ronda**, Jisk Attema, Jordi Vilà-Guerau de Arellano, Gert-Jan Steeneveld, Bert Holtslag  
Wageningen University, Meteorology and Air Quality Section, Wageningen, Netherlands  
(gert-jan.steeneveld@wur.nl)

**18:15–18:30: EMS2015-234**

Spatio-temporal Pattern of the Surface-based Turbulent Layer during Polar Winter at Dome C, Antarctica as observed by Sodar

**Igor Petenko**, Stefania Argentini, Margarita Kallistratova, Giangiuseppe Mastrantonio, Angelo Viola, Giampietro Casasanta, Roberto Sozzi  
Institute of Atmospheric Sciences and Climate, CNR, Roma, Italy (i.petenko@isac.cnr.it), A.M. Obukhov  
Institute of Atmospheric Physics, Moscow, Russia

**18:30–18:45: EMS2015-588**

Evaluation of PBL schemes in WRF for high Arctic conditions

**Hristina Kirova-Galabova**, Ekaterina Batchvarova, Sven-Erik Gryning, Henrik Skov, Lise Lotte Sørensen  
National Institute of Meteorology and Hydrology-BAS, Sofia, Bulgaria (hristina.kirova@meteo.bg)

**END OF ORAL PROGRAMME ASI10**

## ASI15 Phenology and agrometeorology

**Convener:** Elisabeth Koch

**Co-Convener:** Josef Eitzinger

**Lecture Room:** Kyoto

**09:00–09:45**

**Chairperson(s):** Elisabeth Koch/Josef Eitzinger

**09:00–09:15: EMS2015-581**

pep725: monitoring of spring phenology 2015

**Elisabeth Koch**, Markus Ungersböck, Thomas Hübner, Anita Paul, European Partners  
Central Institute for Meteorology and Geodynamics,  
Climatology, Vienna, Austria  
(elisabeth.koch@zamg.ac.at)

**09:15–09:30: EMS2015-117**

Austrian drought monitoring system for agriculture

**Josef Eitzinger**, Vojko Daneu, Gernot Bodner, Gerhard Kubu, Willibald Loiskandl, Peggy Macaigne, Sabina Thaler, Andreas Schaumberger, Christoph Wittmann, Erwin Murer, Carmen Krammer, Mirek Trnka, Michael Hayes

Univ. of Natural Resources and Life Sciences, BOKU, Vienna, Austria

**09:30–09:45: EMS2015-110**

Comprehensive Study on the Influence of Evapotranspiration and Albedo on Surface Temperature Related to Changes in the Leaf Area Index

**Jiawen Zhu**, Xiaodong Zeng

International Center for Climate and Environment Sciences, Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, China  
(zhujw@mail.iap.ac.cn)

**END OF ORAL PROGRAMME ASI15**

## Climate

### Monitoring climate and climate change

### CL3 Historical climatology and paleoclimatology

**Convener:** Rudolf Brazdil  
**Co-Conveners:** Ricardo García-Herrera; Ulf Buentgen;  
 Fidel González-Rouco  
**Lecture Room:** Sofia II

**09:00–10:30**

**Chairperson(s):** Fidel González-Rouco

**09:00–09:15: EMS2015-431**

Revisiting Chinese temperatures over the last 2k from reconstructions and uncertainty constraints from climate simulations

**Elena García-Bustamante**, J. Fidel González-Rouco, Laura Fernández-Donado, Juerg Luterbacher, Johann Jungclauss  
 Universidad de Murcia, Departamento de Física, Murcia, Spain (e.garciabustamante@um.es)

**09:15–09:30: EMS2015-436**

Last millenium temperature simulations and reconstructions: overview, comparison and uncertainties

**Laura Fernández-Donado**, J. Fidel González Rouco, Elena García-Bustamante, Jason E. Smerdon, Christoph C. Raible, Jürg Luterbacher  
 Institute of Geosciences (UCM-CSIC), Dpto. Astrophysics and Atmospheric Sciences, University Complutense Madrid, Spain  
 (laurafernandez@fis.ucm.es)

**09:30–09:45: EMS2015-383**

Covariability of the seasonal temperature and precipitation in a high-resolution climate simulation for the Iberian Peninsula during the last five centuries

**Fernando S. Rodrigo**, Sonia Fernández Montes, Juan Pedro Montávez, Juan Andrés García-Valero, Juan José Gómez-Navarro  
 Department of Chemistry and Physics, University of Almería

**09:45–10:00: EMS2015-169**

Reconstruction of hydro-climatic changes in the S Balkans from the Medieval Warm Period to the present based on a high-resolution lake level stage record derived from beach ridge sediments of Lake Prespa (Greece, Albania, FYROM)

**Tim van der Schriek**, Christos Giannakopoulos  
 National Observatory of Athens, Athens, Greece  
 (timvanderschriek@gmail.com)

**10:00–10:15: EMS2015-633**

Tornadoes in Estonia and Latvia

**Andres Tarand**  
 Estonia (andres.tarand@gmail.com)

**10:15–10:30: EMS2015-585**

Trends in wind speed over South America  
**Maria Gertrudes Justi da Silva**, Luiz Felipe Cardoso, Igor Campos, Wanderson Silva  
 UENF, CCT, Laboratório de Meteorologia, Macaé, Brazil (justi.meteoro@gmail.com)

**END OF ORAL PROGRAMME CL3**

### Understanding processes and climate change

### CL5 Climate prediction and scenarios on decadal to centennial timescales

**Convener:** Mark Liniger

**Co-Conveners:** Clare Goodess; Martin Widmann; Jean-Pierre Céron

**Lecture Room:** Sofia II

**11:00–13:00**

**11:00–11:30: EMS2015-515**

VALUE: a framework to validate downscaling approaches for climate change studies (solicited)  
**Douglas Maraun**, Martin Widmann, Jose M. Gutierrez, Sven Kotlarski, Richard E. Chandler, Elke Hertig, Joanna Wibig, Radan Huth, Renate Wilcke  
 GEOMAR Helmholtz Centre for Ocean Research, Ocean Circulation and Climate Dynamics, Kiel, Germany (dmaraun@geomar.de)

**11:30–11:45: EMS2015-380**

Regionalized climate change projections in AEMET: history, current status and perspectives  
 Petra Ramos, Asuncion Pastor, Pilar Amblar, J. Carlos Sanchez, Jose M. Rodriguez, **Maria J. Casado**, J. Ramon Picatoste, Ernesto Rodriguez-Camino  
 AEMET, Spain

**11:45–12:00: EMS2015-225**

From regional to local climate scenario: the effects of a statistical bias correction on different spatial scale climate change signal

**Lorenzo Sangelantoni**, Aniello Russo  
 Polytechnic University of Marche, Department of Life and Environmental Sciences, Ancona, Italy  
 (l.sangelantoni@univpm.it)

**12:00–12:15: EMS2015-447**

Good surface performance of GCMs, good driving data for RCMs? Towards a clarification

**Martin W. Jury**, Andreas F. Prein, Heimo Truhetz, Andreas Gobiet  
 University of Graz, Wegener Center for Climate and Global Change, Graz, Austria  
 (martinwolfgang.jury@edu.uni-graz.at)

**12:15–12:30: EMS2015-619**

On the comparison of EuroCORDEX ensemble and ENSEMBLES ensemble of regional simulations  
**Tomas Halenka**, Michal Belda, Zuzana Klukova  
 Charles University in Prague, Fac. of Mathematics and Physics, Prague, Czech Republic  
 (tomas.halenka@mff.cuni.cz)

**12:30–12:45: EMS2015-574**

Research on the Change of Wind Speeds and Wind Energy in China  
**Ying Jiang**, Yong Luo, Zongci Zhao  
 Public Meteorological Service Center of CMS, Beijing, China (jiangy@cma.gov.cn)

**12:45–13:00:**

Poster Introduction

**13:00 Lunch break****17:00–17:15: EMS2015-359**

The extreme 2013/2014 winter in a future climate  
 Lucinda Rasmijn, **Gerard van der Schrier**, Jan Barkmeijer, Andreas Sterl, Wilco Hazeleger  
 Royal Netherlands Meteorological Institute, De Bilt, Netherlands (schrier@knmi.nl)

**17:15–17:30: EMS2015-249**

ELAPSE - Enhanced regional and local climate scenarios for Switzerland  
**Sven Kotlarski**, Elias Zubler, Martin Ivanov, Andreas M. Fischer, Mark A. Liniger, Christoph Schär  
 Federal Office of Meteorology and Climatology MeteoSwiss, Zurich, Switzerland, Institute for Atmospheric and Climate Science, ETH Zurich, Zurich, Switzerland

**17:30–17:45: EMS2015-174**

Strategies for soil initialisation of regional decadal climate predictions  
**Steffen Kothe**, Julian Tödter, Bodo Ahrens  
 Deutscher Wetterdienst, Germany  
 (steffen.kothe@dwd.de)

**17:45–18:00: EMS2015-112**

Effects of horizontal resolution of regional climate model simulations on convective and stratiform precipitation  
**Zuzana Rulfova**, Jan Kysely  
 Institute of Atmospheric Physics CAS, Prague, Czech Republic (rulfova@ufa.cas.cz), Faculty of Mathematics and Physics, Charles University in Prague, Czech Republic

**18:00–18:15: EMS2015-325**

Validation of recent ALADIN-Climate simulations over Central Europe and Hungary  
**Tamás Illy**, Judit Sábitz, Gabriella Szépszó  
 Hungarian Meteorological Service, Regional Climate Modelling Group, Budapest, Hungary (illy.t@met.hu)

**18:15–18:30: EMS2015-362**

Dynamically downscaled climate projection over the Maritime Continent using the MIT Regional Climate Model  
**Eun-Soon Im**, Elfatih A. B. Eltahir  
 Singapore-MIT Alliance for Research and Technology, Center for Environmental Sensing and Modeling, Singapore, Singapore (esim@korea.kr)

**18:30–18:45: EMS2015-23**

Centennial-scale climate projection for the Carpathian Region assuming moderate change in the anthropogenic radiative forcing  
**Ildikó Pieczka**, Karolina André, Rita Pongrácz, Judit Bartholy  
 Eötvös Loránd University, Department of Meteorology, Budapest, Hungary (pieczka@nimbus.elte.hu)

**18:45–19:00: EMS2015-19**

Evaluation of regional climate simulations with WRF model in conditions of central Europe  
**Jan Karlicky**, Tomas Halenka, Michal Belda, Zuzana Klukova, Petr Skalak  
 Charles University in Prague, Czech Republic  
 (jankarlicky@centrum.cz)

**END OF ORAL PROGRAMME CL5**

## Communication and Education

### CE5 Education

**Convener:** Tomas Halenka

**Co-Conveners:** Alessandro Chiariello; Gintautas Stankunavicius; Judita Liukaityte

**Lecture Room:** Vitosha

**17:00–19:00**

**Chairperson(s):** Tomas Halenka

**17:00–17:15:** Honourable Mention for Outreach & Communication Project: video on the application of the GNSS for atmospheric remote sensing

**17:15–17:45: EMS2015-569**

Eumetcal Training Activities and Strategies (solicited)

**Alessandro Chiariello**, Tero Silli

Finnish Meteorological Institute, Human Resource

Development, Helsinki, Finland

(alessandro.chiariello@fmi.fi)

**17:45–18:00: EMS2015-432**

Using virtual technologies to deliver training solutions using real models

**Glenn Carver**, Stephan Siemen

ECMWF, Reading, United Kingdom

(glenn.carver@ecmwf.int)

**18:00–18:15: EMS2015-396**

Climate Change Adaptation - a Challenge Requiring Collaborative Actions

**Kerstin Konitzer**, Elin Fridahl, David Hirdman

Swedish Meteorological and Hydrological Institute

(SMHI), Norrköping, Sweden

(kerstin.konitzer@smhi.se)

**18:15–18:30: EMS2015-605**

On the update of Meteorological Glossary at the Czech Meteorological Society

Daniela Rezacova, Petr Zacharov, **Tomas Halenka** and the eMS Team

Charles University in Prague, Fac. of Mathematics and

Physics, Prague, Czech Republic

(tomas.halenka@mff.cuni.cz)

**18:30–18:45: EMS2015-522**

Educating secondary students about climate change through Art

**Vasilis Dimopoulos**, Panagiotis Giannopoulos

Hellenic American Educational Foundation, Psychico

College, Greece (vdimop@gmail.com)

**18:45–19:00: EMS2015-598**

Update of ECTOM - European catalogue of training opportunities in meteorology

**Tomas Halenka**, Michal Belda

Charles University in Prague, Fac. of Mathematics and

Physics, Prague, Czech Republic

(tomas.halenka@mff.cuni.cz)

**END OF ORAL PROGRAMME CE5**

## Measurements and Observations

### OBS4 Meteorological observations from ground and space-based Global Navigation Satellite System (GNSS)

**Convener:** Guergana Guerova  
**Co-Convener:** Jonathan Jones  
**Lecture Room:** Sofia III

**09:00–10:30**

**Chairperson(s):** Guergana Guerova

**09:00–09:15: EMS2015-90**

Improving Ionospheric Imaging Via the Incorporation of Direct Ionosonde Observations Into GPS Tomography over South Africa

**Chelsey Cooper**, Cathryn Mitchell, David Jackson  
 Dept of Electrical and Electronic Engineering, University of Bath, Bath, UK, Met Office, Exeter, UK

**09:15–09:30: EMS2015-439**

Comparison of GNSS processing techniques for estimation of tropospheric products over Bulgaria for 2013

**Tzvetan Simeonov**, Keranka Vassileva, Norman Teferle, Dmitry Sidorov  
 Sofia University, Meteorology and Geophysics, Sofia, Bulgaria (simeonov@phys.uni-sofia.bg)

**09:30–09:45: EMS2015-338**

Atmospheric sensing by GNSS signal in GNSS&Meteo group investigations

**Pawel Hordyniec**, Witold Rohm, Jaroslaw Bosy, Tomasz Hadas, Krzysztof Sosnica, Karina Wilgan, Jan Kaplon, Jan Sierny, Kamil Kazmierski  
 University of Environmental and Life Sciences, Institute of Geodesy and Geoinformatics, Wroclaw, Poland (pawel.hordyniec@igig.up.wroc.pl)

**09:45–10:00: EMS2015-239**

Study of fog dynamics in Bulgaria with the GNSS tropospheric products

**Anastasia Stoycheva**, Guergana Guerova  
 National Institute of Meteorology and Hydrology, Bulgarian Academy of Sciences, Sofia, Bulgaria

**10:00–10:15: EMS2015-390**

Study of frontal and convective intense precipitation cases in 2012 with GNSS tropospheric products and NWP model WRF for Bulgaria

**Guergana Guerova**, Martin Slavchev, Anastasia Stoycheva, Tzvetan Simeonov  
 Sofia University, Department of Meteorology and Geophysics, Sofia, Bulgaria (guerova@phys.uni-sofia.bg)

**10:15–10:30: Poster presentations 3 min each**

**END OF ORAL PROGRAMME OBS4**

### OBS5 Recent Advances in Climate (Services) Ready Precipitation Monitoring

**Convener:** Andreas Becker  
**Co-Conveners:** Tanja Winterrath; Markus Ziese; Vincenzo Levizzani; Aart Overeem  
**Lecture Room:** Sofia III

**11:00–13:00**

**Chairperson(s):** Markus Ziese

**11:00–11:15: EMS2015-157**

Measuring rainfall from cellular communication networks for a 2.5-year period

**Aart Overeem**, Hidde Leijnse, Remko Uijlenhoet  
 Wageningen University, Hydrology and Quantitative Water Management Group, Wageningen, Netherlands (aart.overeem@wur.nl), Royal Netherlands Meteorological Institute, De Bilt, Netherlands

**11:15–11:30: EMS2015-35**

Urban flooding forecasting with weather radar and dense rain gauges network

**Diego Guenzi**, Fiorella Acquavotta, Simona Fratianni, Rodolfo Boraso, Roberto Cremonini  
 Università degli Studi di Torino - dip. di Scienze della Terra, Turin, Italy

**11:30–11:45: EMS2015-28**

Climate change impact on flood characteristics in southwestern Hungary

**Anna Kis**, János Adolf Szabó, Rita Pongrácz, Judit Bartholy  
 Eötvös Loránd University, Department of Meteorology, Budapest, Hungary (kisanna@nimbus.elte.hu)

**11:45–12:00: EMS2015-298**

Global daily precipitation analysis for the validation of medium-range climate predictions (DAPACLIP)

**Felix Dietzsch**, Axel Andersson, Marc Schröder, Kristin Raykova, Markus Ziese, Andreas Becker  
 Deutscher Wetterdienst, Offenbach, Germany

**12:00–12:15: EMS2015-405**

Monitoring precipitation variations in Europe

**Christiana Photiadou**, Gerard van der Schrier, Jonathan Barichivich, Philip Jones  
 Royal Netherlands Meteorological Institute, De Bilt 3730 AE, The Netherlands (christiana.photiadou@knmi.nl)

**12:15–12:30: EMS2015-236**

Spatial assessment of the performance of multiple gridded, reanalysis and remote sensing rainfall products over Saudi Arabia

**Ahmed Kenawy**, Matthew McCabe  
 King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia (kenawy@mans.edu.eg)

**12:30–12:45: EMS2015-546**

HOMPRA Europe - HOMogenized PREcipitation  
Analysis of European in-situ data  
Elke Rustemeier, Alice Kapala, Anja Meyer-Christoffer,  
Peter Finger, Udo Schneider, Victor Venema, **Markus  
Ziese**, Clemens Simmer, Andreas Becker  
Deutscher Wetterdienst, Hydrometeorology, Offenbach  
am Main, Germany (markus.ziese@dwd.de)

**12:45–13:00: EMS2015-530**

On the new portfolio of "climate ready" gridded  
precipitation data products issued by the Global  
Precipitation Climatology Centre (GPCC)  
**Markus Ziese**, Udo Schneider, Anja Meyer-Christoffer,  
Peter Finger, Elke Rustemeier, Andreas Becker  
Deutscher Wetterdienst, Hydrometeorology, Offenbach  
am Main, Germany (markus.ziese@dwd.de)

**END OF ORAL PROGRAMME OBS5**

## The Atmospheric System and its Interactions

### ASI3 Meteorology, climate and space weather: science, applications and coordination

**Convener:** Mauro Messerotti

**Co-Conveners:** David R. Jackson, Annika Seppälä, Suzy Bingham

**Poster Area:** Sofia I

**Chairperson(s):** David Jackson

**Introduction:** 09:45, Kyoto

**Attendance Time:** 16:15–17:00

**P22: EMS2015-141**

Global water cycle and solar activity variations

**Muthanna Al-Tameemi**, Vladimir Chukin

Russian State Hydrometeorological University, St. Petersburg, Russian Federation

(chukin@meteolab.ru), Mustansiriya University, Baghdad, Iraq (muthannaabd@yahoo.com)

**P23: EMS2015-285**

Coupling between solar/geomagnetic activity and climate variability from stratosphere to troposphere

**Dagmar Novotna**, Milan Palus

Institute of Atmospheric Physics, Czech Acad. of Sci, Czech Republic (nov@ufa.cas.cz)

END OF POSTER PROGRAMME ASI3

### ASI5 Coastal meteorology and oceanography

**Convener:** Mario Marcello Miglietta

**Co-Conveners:** Anna Maria Sempreviva, Manel Grifoll, Silvio Gualdi

**Poster Area:** Sofia I

**Chairperson(s):** Silvio Gualdi

**Introduction:** 15:45, Vitosha

**Attendance Time:** 16:15–17:00

**P24: EMS2015-113**

Application of a wind-wave-current coupled model in the Catalan coast (NW Mediterranean Sea)

**Ana Maria Palomares**, Jorge Navarro, Manel Grifoll, Elena Pallares, Manuel Espino, Pedro Jimenez CIEMAT (Centro de investigaciones Energéticas, Medioambientales y Tecnológicas), Madrid, Spain (ana.palomares@ciemat.es)

**P25: EMS2015-277**

The new Euskalmet coastal maritime warning system

**Santiago Gaztelumendi**, Joseba Egaña, Pedro Liria, Manuel Gonzalez, José Antonio Aranda, Pedro Anitua Basque Meteorology Agency (EUSKALMET), TECNALIA, Meteorology Area

**P26: EMS2015-371**

High resolution wave forecast and verification on the Catalan coast

**Manuel Bravo**, Roger Veciana, Abdelmalik Sairouni Servei meteorologic de Catalunya, meteo.cat

**P27: EMS2015-445**

Case study of wind analysis at two coastal site using remote sensing sensors and ground based stations

**Teresa Lo Feudo**, Damyan Barantiev, Ekaterina Batchvarova, Claudia Roberta Calidonna, Daniel Gulli, Luca Tiriolo, Rosamaria Calaudi, Anna Maria Sempreviva

ISAC-CNR, UOS of Lamezia Terme, Italy (t.lofeudo@isac.cnr.it)

**P28: EMS2015-596**

Scale-dependent evaluation of mesoscale low-level winds in coastal areas obtained with ALADIN mesoscale NWP model

**Mario Hrastinski**, Kristian Horvath, Iris Odak Plenkovic, Stjepan Ivatek-Sahdan, Alica Bajic Meteorological and Hydrological Service, Atmospheric research and forecast models development department, Zagreb, Croatia (mario.hrastinski@cirus.dhz.hr)

END OF POSTER PROGRAMME ASI5

### ASI7/CE6 Human Biometeorology

**Convener:** Andreas Matzarakis

**Co-Convener:** Tanja Cegnar

**Poster Area:** Sofia I

**Chairperson(s):** Andreas Matzarakis

**Introduction:** 09:45, Kyoto

**Attendance Time:** 16:15–17:00

**P29: EMS2015-123**

Application of spatial synoptic classification in evaluating links between heat stress and cardiovascular mortality and morbidity in Prague, Czech Republic

**Ales Urban**, Jan Kyselý

Institute of Atmospheric Physics AS CR, Prague, Czech Republic (urban@ufa.cas.cz), Faculty of Science, Charles University, Prague, Czech Republic

**P30: EMS2015-320**

Examination of human comfort predictability using ECMWF deterministic model

Dora Luptak, **Akos Nemeth**, Richard Buki Hungarian Meteorological Service, Climatology Division, Budapest, Hungary (nemeth.a@met.hu)

**P31: EMS2015-255**

An association between environmental variables with and Cardiovascular Diseases and Respiratory in São Paulo

**Fabio Goncalves**, Alberto Afonso Jr. Brazil (fabio.goncalves@iag.usp.br)



**P32: EMS2015-36**

Biometeorological risks in Bulgaria  
**Vladimir Ivanov**, Stilyan Evtimov  
 National Institute of Geophysics, Geodesy and  
 Geography, Sofia, Bulgaria (vivanov@geophys.bas.bg)

**END OF POSTER PROGRAMME ASI7/CE6**

## ASI10 Boundary-layer physics and parameterizations in weather and climate models

**Convener:** Sergej Zilitinkevich  
**Co-Convener:** Arakel Petrosyan  
**Poster Area:** Sofia I  
**Introduction:** 15:45, Sofia III

**Attendance Time:** 16:15–17:00

**P40: EMS2015-31**

Field investigation and numerical modeling of wind-wave interaction at the middle-sized water body  
**Georgy Baydakov**, Alexandra Kuznetsova, Daniil Sergeev, Vladislav Papko, Alexander Kandaurov, Maxim Vdovin, Yuliya Troitskaya  
 Institute of Applied Physics, Nonlinear Oscillations and Waves, Nizhny Novgorod, Russian Federation (gbaydakov@yandex.ru)

**P41: EMS2015-33**

Laboratory investigations of the air flow velocity field structure above the wavy surface for a wide range of wind flow rates and parameters of surface roughness by modified Particle Image Velocimetry technique  
**Maksim Vdovin**, Yuliya Troitskaya, Daniil Sergeev, Alexander Kandaurov  
 Institute of Applied Physics, Nizhny Novgorod, Russian Federation (arfirius@yandex.ru)

**P42: EMS2015-146**

Roughness Length Parameterizations of Regional Climate Models: Influence on Mistral and Tramontane Patterns  
 Anika Obermann, Benedikt Edelmann, **Bodo Ahrens**  
 University of Frankfurt, Institute for Atmospheric and Environmental Sciences, Frankfurt am Main, Germany (bodo.ahrens@iau.uni-frankfurt.de)

**P43: EMS2015-187**

Generalization and application of the coordinated similarity format schemes for parameterization of a wide set of turbulent regimes in the PBL  
 Evgeni Syrakov, **Kostadin Ganey**, Milen Tsankov  
 National Institute of Geophysics, Geodesy and Geography, Bulgarian academy of Sciences, Sofia, Bulgaria, kganey@geophys.bas.bg

**P44: EMS2015-189**

Parameterization of the PBL over orographic-thermal non-homogeneities with some application in synoptic and climatic aspects  
 Evgeni Syrakov, Milen Tsankov, **Kostadin Ganey**  
 National Institute of Geophysics, Geodesy and Geography, Bulgarian academy of Sciences, Sofia, Bulgaria, kganey@geophys.bas.bg

**P45: EMS2015-575**

Comparison of Energy- & flux-budget turbulence closure with Large Eddy Simulation of idealized cases  
**Evgeny Kadantsev**, Sergej Zilitinkevich  
 Division of Atmospheric Sciences, University of Helsinki, Finland (evgeny.kadantsev@helsinki.fi)

**P46: EMS2015-616**

Evaluation of convective boundary layer parameterizations versus Large-Eddy simulation data  
**Andrey Debolskiy**, Victor Stepanenko  
 Moscow State University, Meteorology and climatology, Moscow, Russian Federation (and.debol@gmail.com)

**END OF POSTER PROGRAMME ASI10**

## ASI15 Phenology and agrometeorology

**Convener:** Elisabeth Koch  
**Co-Convener:** Josef Eitzinger  
**Poster Area:** Sofia I  
**Chairperson(s):** Elisabeth Koch, Josef Eitzinger  
**Introduction:** 09:45, Kyoto  
**Attendance Time:** 16:15–17:00

**P66: EMS2015-275**

L Probability Distribution Function and One Relative Standard of Dry and Wet Index  
**Wanli Wang**  
 Wuhan University, School of Resource and Environmental Science, Wuhan, China, 430079, Research Centre of climate and atmospheric environment, Wuhan, China (xiaowanw2002@yahoo.com)

**P67: EMS2015-161**

Estimation of Rice Yield using MODIS NDVI and Multimodel Ensemble Seasonal Hindcasts  
**Jong Chun**, Sung Kim, Sang Oh  
 APEC Climate Center, Busan, Republic of Korea (jachun@apcc21.org)

**END OF POSTER PROGRAMME ASI15**

## Climate

### Monitoring climate and climate change

#### CL3 Historical climatology and paleoclimatology

**Convener:** Rudolf Brazdil

**Co-Conveners:** Ricardo García-Herrera, Ulf Buentgen, Fidel González-Rouco

**Poster Area:** Sofia I

**Introduction:** 15:45, Kyoto

**Attendance Time:** 16:15–17:00

##### P82: EMS2015-542

Modelling of dust deposition in Antarctica in glacial and interglacial climate conditions

**Natalia Sudarchikova**, Uwe Mikolajewicz, Claudia Timmreck, Declan O'Donnell, Guy Schurgers, Dmitry Sein, Kai Zhang

Max Planck Institute for Meteorology, Hamburg, Germany (natalia.sudarchikova@mpimet.mpg.de)

##### P83: EMS2015-291

Early meteorological observations in western Africa, 1687-1793

**Fernando S. Rodrigo**, Vicente Millán  
Dep. Chemistry and Physics, University of Almeria, Almeria, Spain (frodrigo@ual.es)

##### P84: EMS2015-584

Indicators of severe storms in Rio de Janeiro : trends observed in recent decades and in a climate change scenario

**Maria Gertrudes Justi da Silva**, Camila Brasiliense, Fabricio Polifke da Silva, Wallace Menezes  
UENF, CCT, Laboratório de Meteorologia, Macaé, Brazil (justi.meteoro@gmail.com)

#### END OF POSTER PROGRAMME CL3

### Understanding processes and climate change

#### CL5 Climate prediction and scenarios on decadal to centennial timescales

**Convener:** Mark Liniger

**Co-Conveners:** Clare Goodess, Martin Widmann, Jean-Pierre Céron

**Poster Area:** Sofia I

**Introduction:** 12:45, Sofia II

**Attendance Time:** 16:15–17:00

##### P99: EMS2015-618

On the integrated assessment of climate change using climate classification

Michal Belda, **Tomas Halenka**, Jaroslava Kalvova, Eva Holtanova

Charles University in Prague, Fac. of Mathematics and Physics, Prague, Czech Republic  
(tomas.halenka@mff.cuni.cz)

##### P100: EMS2015-32

Identifying the freezing rain events in European gridded climate datasets

**Matti Kämäräinen**, Kirsti Jylhä, Andrea Vajda, Hilppa Gregow, Pauli Jokinen, Seppo Saku  
Finnish Meteorological Institute, Helsinki, Finland  
(matti.kamarainen@fmi.fi)

##### P101: EMS2015-91

Synthetic daily weather time-series for future climate in Switzerland

Denise Keller, **Mark Liniger**, Andreas Fischer, Reto Knutti, Christof Appenzeller  
Federal Office of Meteorology and Climatology  
MeteoSwiss, Climate Division, Zurich-Airport, Switzerland (andreas.fischer@meteoswiss.ch)

##### P102: EMS2015-92

Climate change signal over the Alpine region - sensitivity to GCM selection

Elias Zubler, Andreas Fischer, **Mark Liniger**  
Federal Office of Meteorology and Climatology  
MeteoSwiss, Climate Division, Zurich-Airport, Switzerland (andreas.fischer@meteoswiss.ch)

##### P103: EMS2015-95

Understanding of uncertainties in bunch of reanalysis data sets for MJO assessment

**Jinkyung Park**, Hyun-Suk Kang, Tetsuo Nakazawa, ChunHo Cho  
National Institute of Meteorological Research, Jeju, Republic of Korea

**P104: EMS2015-139**

Relationship between temperature and precipitation over Europe in EURO-CORDEX regional climate models

**Lenka Crhova**, Eva Holtanova  
Charles University in Prague, Faculty of Mathematics and Physics, Department of Atmospheric Physics, Prague, Czech Republic (crhoval@gmail.com)

**P105: EMS2015-304**

Climate change impact on future heating and cooling needs in Zagreb

**Lidija Cvitan**, Mirta Patarcic, Renata Sokol Jurkovic  
Meteorological and hydrological service, Research and development division, Zagreb, Croatia  
(cvitan@cirus.dhz.hr)

**P106: EMS2015-384**

Quantifying groundwater recharge under projected climatic changes in an urban area

Sabine Meißner, Volkmar Dunger, **Stephanie Hänsel**, Jörg Matschullat  
TU Bergakademie Freiberg, Interdisciplinary Environmental Research Centre, Freiberg, Germany  
(stephanie.haensel@ioez.tu-freiberg.de)

**P107: EMS2015-554**

Changes in winter streamflow in southern Iberian Peninsula during the 21st century

**María Jesús Esteban-Parra**, Jose Manuel Hidalgo Muñoz, Matilde García-Valdecasas-Ojeda, Sonia R. Gámiz-Fortis, Yolanda Castro-Díez  
Universidad de Granada, Dpto Física Aplicada, Granada, Spain (esteban@ugr.es)

**P108: EMS2015-552**

Sensitivity of the WRF model for Dynamical Downscaling in term of evaporation and specific humidity over Spain

**Matilde García-Valdecasas-Ojeda**, Sonia R. Gámiz-Fortis, Yolanda Castro-Díez, María Jesús Esteban-Parra  
Universidad de Granada, Dpto Física Aplicada, Granada, Spain (esteban@ugr.es)

**END OF POSTER PROGRAMME CL5**

## Communication and Education

### CE5 Education

**Convener:** Tomas Halenka

**Co-Conveners:** Alessandro Chiariello,  
Gintautas Stankunavicius, Judita Liukaityte

**Poster Area:** Sofia I

**Chairperson(s):** Tomas Halenka

**Introduction:** 15:45, Vitosha

**Attendance Time:** 16:15–17:00

**P116: EMS2015-428**

Using virtual machines for training at ECMWF –  
Building sound environments to improve training  
Stephan Siemen, Sándor Kertész, Iain Russell, **Glenn  
Carver**

**P117: EMS2015-170**

Teaching STEM through renewable energy for non-  
science major college students

**Yukimasa Tsubota**

Natural Science Divisions, J. F. Oberlin University,  
Tokyo, Japan (tsubota@obirin.ac.jp)

**END OF POSTER PROGRAMME CE5**

## Measurements and Observations

### OBS4 Meteorological observations from ground and space-based Global Navigation Satellite System (GNSS)

**Convener:** Guergana Guerova

**Co-Convener:** Jonathan Jones

**Poster Area:** Sofia I

**Chairperson(s):** Jonathan Jones

**Introduction:** 10:15, Sofia III

**Attendance Time:** 16:15–17:00

#### P121: EMS2015-323

COST Action ES1206: GNSS for Severe Weather and Climate (GNSS4SWEC)

**Jonathan Jones**, Guergana Guerova, Jan Dousa, Galina Dick, Siebren de Haan, Eric Pottiaux, Olivier Bock, Rosa Pacione  
Met Office, Observations R&D, Exeter, United Kingdom  
(jonathan.jones@metoffice.gov.uk)

#### P122: EMS2015-455

Activities of GNSS4SWEC Working Group 1: Advanced GNSS Processing Techniques

Jan Dousa, Galina Dick, **Florian Zus**, Michal Kacmarik, Pavel Václavovic, Hugues Brenot, Karolina Szafranek, Zhiguo Deng, Elmar Brockmann, Norman Teferle, Witold Rohm, Marcelo Santos, Nicolas Zinas, Pawel Wielgosz, Samuel Nahmani, Laurent Morel  
Helmholtz Centre Potsdam - GFZ German Research Centre for Geosciences, Potsdam, Germany

#### P123: EMS2015-53

Two modes of mixing ratio lamina vertical distribution

**Peter Krizan**

Institute of Atmospheric Physics, Prague, Czech Republic (krizan@ufa.cas.cz)

#### P124: EMS2015-303

The assimilation of multi-GNSS tropospheric data

**Florian Zus**, XingXing Li, Galina Dick, Stefan Heise, Wickert Jens

GFZ Potsdam, 1.1, Potsdam, Germany (zusflo@gfz-potsdam.de)

#### P125: EMS2015-544

Improvement of the vertical component of GPS and INSAR measurements in the western Corinth Gulf (Greece), by the use of high-resolution meteorological modeling of the lower troposphere: The PaTrop Experiment

**Nikolaos Roukounakis**, Panagiotis Elias, Pierre Briole, Athanassios Argyriou, Ioannis Kioutsoukis, Adrianos Retalis, Dimitrios Katsanos, Athanassios Ganas, Dimitar Dimitrov

ENS, Laboratoire de Geologie, UMR 8538, 24 rue Lhomond, 75231 Paris CEDEX 5, France, Laboratory of Atmospheric Physics, Department of Physics, University of Patras, Patras GR 26500, Greece, Institute for Environmental Research and Sustainable Development, National Observatory of Athens, Lofos Koufou, P. Penteli 15236, Greece

### OBS5 Recent Advances in Climate (Services) Ready Precipitation Monitoring

**Convener:** Andreas Becker

**Co-Conveners:** Tanja Winterrath, Markus Ziese, Vincenzo Levizzani, Aart Overeem

**Poster Area:** Sofia I

**Chairperson(s):** Aart Overeem

**Introduction:** 15:45, Sofia III

**Attendance Time:** 16:15–17:00

#### P126: EMS2015-532

Comparative statistical evaluation of the global daily precipitation data set DAPACLIP at GPCC  
Kristin Raykova, Elke Rustemeier, Kirstin Schamm, **Markus Ziese**, Anja Meyer-Christoffer, Udo Schneider, Peter Finger, Andreas Becker  
Deutscher Wetterdienst, Hydrometeorology, Offenbach am Main, Germany (markus.ziese@dwd.de)

#### P127: EMS2015-543

Assessment of ERA-20C reanalysis monthly precipitation totals on the basis of GPCC in-situ measurements

Elke Rustemeier, **Markus Ziese**, Andreas Becker, Anja Meyer-Christoffer, Udo Schneider, Peter Finger  
Deutscher Wetterdienst, Hydrometeorology, Offenbach am Main, Germany (markus.ziese@dwd.de)

**END OF POSTER PROGRAMME OBS5**

Wednesday, 09 September 2015					
Room	Sofia II	Sofia III	Kyoto	Vitosha	Room
09:00–10:30		<b>ASI14:</b> Meteorological processes, atmospheric composition and pollution	<b>OBS3/ASI19:</b> Airborne meteorology	<b>ASI11:</b> Interfacing hydrological and meteorological models in forecasting system  <b>10:15: Poster Introduction</b>	09:00–10:30
10:30	Coffee Break				10:30
11:00–13:00	<b>CL7:</b> Synoptic climatology	<b>ASI14</b>  <b>12:30: Poster Introduction</b>	<b>ECAM5/ASI20:</b> Reducing Weather Risks to Transport: air, sea and land <b>12:45: Poster Introduction</b>	<b>ASI12/OBS2:</b> Sub-kilometre Scale Precipitation Variability and its Impact on Hydrology <b>12:30: Poster introduction</b>	11:00–13:00
13:00	Lunch Break				13:00
14:00–16:00	<b>ECAM2/CE3:</b> Delivery and communication of impact based forecasts and risk based warnings  <b>15:05 Panel Discussion</b>	<b>OBS1/ASI8:</b> Atmospheric measurements from the local to the regional scale <i>to be continued Thursday</i>	<b>CL1:</b> Climate monitoring; data rescue, management, quality and homogenization	<b>ASI13:</b> Urban climate	14:00–16:00
16:00	<b>P07: Poster Introduction CL7</b>		<b>P08: Poster Introduction CL1</b>	<b>P09: Poster Introduction ASI13, OBS3/ ASI19</b>	16:00
16:15–17:00	<p align="center"><b>Poster Session &amp; Coffee Break I Foyer and Room Sofia I</b></p> <p align="center"><i>Poster authors in attendance time for the following sessions:</i></p> <p>ECAM and SPS programme group: <b>SPS3</b> (GB1, GB2 in room Sofia II), <b>ECAM2/CE3</b> (P6), <b>ECAM5/ASI20</b> (P7 - P9)</p> <p>ASI programme group: <b>ASI11</b> (P47 - P48), <b>ASI12/OBS2</b> (P49 - P50), <b>ASI13</b> (P51 - P55), <b>ASI14</b> (P56 - P65)</p> <p>CL programme group: <b>CL1</b> (P68 - P81), <b>CL7</b> (P109 - P115)</p> <p>OBS programme group: <b>OBS3/ASI19</b> (P118 - P120)</p>				16:15–17:00
17:00–18:30	<b>The Great Debate: Big Data in Meteorology</b>				17:00–18:30
Room	Sofia II	Sofia III	Kyoto	Vitosha	Room

In the detailed daily programme (on page 51 to 67) the related ECAM, ASI, CL and OBS sessions are listed in the following order: ECAM2/CE3, ECAM5/ASI20, ASI11, ASI12/OBS2, ASI13, ASI14, CL1, CL7, OBS1/ASI8, OBS3/ASI19.

#### Poster display time Monday to Wednesday

Authors are kindly asked to put up their posters as soon as possible within the allocated display time in order to enable the conference participants to view their posters at any time within the display days, and to take them down on Wednesday evening between 18:00–19:30. Posters that have not been removed within this dismantling time will be removed and disposed.

## Special Events

### SPS3 Public Great Debate: “Big Data” in Meteorology: Opportunities and Challenges

**Convener:** Will Lang

**Co-Convener:** Robert Mureau

**Lecture Room:** Sofia II

**17:00–18:30**

**Chairperson(s):** Will Lang

**17:00–17:15: EMS2015-242**

Urban air temperature estimation from smartphone battery temperatures (solicited)  
Jan Jaap Pape, **Aart Overeem**, Hidde Leijnse, James Robinson, Gert-Jan Steeneveld, Berthold K.P. Horn, Remko Uijlenhoet  
Wageningen University, Hydrology and Quantitative Water Management Group, Wageningen, Netherlands (aart.overeem@wur.nl), Royal Netherlands Meteorological Institute, De Bilt, Netherlands

**17:15–17:25:**

Introduction to “Great Debate” by Will Lang (including poster summaries)

**17:25–17:30: EMS2015-172**

Big Data challenges in NWP and its Application  
**Ken Mylne**  
Met Office, Weather Science, Exeter, United Kingdom (ken.mylne@metoffice.gov.uk), Chair Data Processing and Forecasting System, WMO Commission for Basic Systems

**17:30–17:35:**

Robert Mureau (MeteoGroup)

**17:35–17:40:**

Panellist 3: Statement

**17:40–17:45:**

Panellist 4: Statement

**17:45–18:30:**

Discussion moderated by Will Lang

**END OF ORAL PROGRAMME SPS3**

## Applications of Meteorology

### ECAM2/CE3 Delivery and communication of impact based forecasts and risk based warnings

**Conveners:** Dee Cotgrove; Haleh Kootval  
**Co-Convenor:** Tanja Cegnar  
**Lecture Room:** Sofia II

**14:00–16:00**

**Chairperson(s):** Dee Cotgrove/Haleh Kootval

**14:00–14:05:**  
Introduction

**14:05–14:20: EMS2015-278**

Geographical contextualize and quantify flood risk using global precipitation data and GIS

**Elena Isotta Cristofori**, Amos Mtonya, Walther Camaro, Simone Balbo, Paolo Pasquali  
 Politecnico di Torino, Torino, Italy  
 (elena.cristofori@polito.it), ITHACA - Information Technology for Humanitarian Assistance, Cooperation and Action, Torino, Italy

**14:20–14:35: EMS2015-395**

A communication issue: Extremes - they have a will of their own!

**Arne Spekat**, Wolfgang Enke  
 Climate and Environment Consulting Potsdam GmbH, Potsdam, Germany (arne.spekat@cec-potsdam.de)

**14:35–14:50: EMS2015-471**

Weather Information Tailored to the Needs of Renewable Energy Industry

**Isabel Alberts**, Carmen Köhler, Andrea Steiner, Harald Kempf, Renate Hagedorn  
 Deutscher Wetterdienst, Offenbach, Germany  
 (isabel.alberts@dwd.de)

**14:50–15:05: EMS2015-83**

Innovations in communicating high impact weather events

**Joanne McLellan**  
 Met Office, Exeter, Devon, EX1 3PB, United Kingdom  
 (joanne.mclellan@metoffice.gov.uk)

#### Panel Discussion

**15:05–15:15:**

Gerald Fleming, Head Forecasting Met Eireann (panellist)

**15:15–15:25:**

Nina Kukkurainen, Communications Director Finnish Meteorological Institute (panellist)

**15:25–15:35:**

Tanja Cegnar, Slovenian Environment Agency (panellist)

**15:35–16:00:**

Challenges and best practice in communicating severe weather: Questions & Answers with the Panel

**END OF ORAL PROGRAMME ECAM2/CE3**

### ECAM5/ASI20 Reducing Weather Risks to Transport: air, sea and land

**Convener:** Fraser Ralston

**Co-Conveners:** Thomas Hauf; Christine Le Bot

**Lecture Room:** Kyoto

**11:00–13:00**

**Chairperson(s):** Fraser Ralston

**11:00–11:15: EMS2015-215**

Weather Window Planning

**Maurits Geuze**

Netherlands (maurits.geuze@meteogroup.com)

**11:15–11:30: EMS2015-137**

Cb-LIKE - Thunderstorm forecasts up to six hours with fuzzy logic

**Martin Köhler**

Germany (martin.koehler@dlr.de)

**11:30–11:45: EMS2015-168**

Road weather forecasting in Météo-France

Ludovic Bouilloud, **Odile Coudert**

**11:45–12:00: EMS2015-376**

Viamet: Advanced integration of meteorological data to achieve high resolution winter road condition forecasts

**Roger Veciana Rovira**, Abdelmalik Sairouni, Josep Ramon Miró Cubells, Rocky Otto Inarejos, Jéssica Amaro

Servei Meteorològic de Catalunya, Spain  
 (rveciana@gmail.com)

**12:00–12:15: EMS2015-495**

Winter time road traffic accidents compared to weather in Finland

**Marjo Hippi**, Otto Solin

Finnish Meteorological Institute, Helsinki, Finland  
 (marjo.hippi@fmi.fi)

**12:15–12:30: EMS2015-7**

A Vehicle OverTurning Model: Forecasting Risk of Disruption on the UK Road Network during Winter Storms

**Rebecca Hemingway**

United Kingdom

(rebecca.hemingway@metoffice.gov.uk)



**12:30–12:45: EMS2015-57**

Evaluation of ship icing algorithms against unique ice accumulation data in Norwegian waters

**Eirik Mikal Samuelsen**

UiT - The Arctic University of Tromsø

(eirik.m.samuelsen@uit.no), MET Norway, Tromsø

(eiriks@met.no)

**12:45–13:00:**

Short Poster Presentation

**END OF ORAL PROGRAMME ECAM5/ASI20**

## The Atmospheric System and its Interactions

### ASI11 Interfacing hydrological and meteorological models in forecasting system

**Convener:** Bodo Ahrens  
**Co-Conveners:** Massimiliano Zappa; Herbert Formayer  
**Lecture Room:** Vitosha

09:00–10:20

**Chairperson(s):** B. Ahrens

09:00–09:15: EMS2015-60

Simulation of Seasonal Extreme River Flows for Selected Climate Change Scenarios and Odra River Basin

**Leszek Kuchar**, Slawomir Iwanski, Leszek Jelonek  
 Wrocław University of Environmental and Life Sciences (WUELS), Wrocław, Poland  
 (leszek.kuchar@gmail.com), Institute of Meteorology and Water Management, Wrocław, Poland

09:15–09:30: EMS2015-65

How seasonal forecast could help a decision maker: an example of climate service for water resource management.

**Christian Viel**, Anne-Lise Beaulant, Jean-Michel Soubeyrou, Jean-Pierre Ceron  
 Météo-France, Climatology, France  
 (christian.viel@meteo.fr)

09:30–09:45: EMS2015-132

Assessing various post-processing methods with regard to a low-flow forecast system in the Thur basin (Switzerland)

**Konrad Bogner**, Stefanie Joerg-Hess, Luzi Bernhard, Massimiliano Zappa  
 Swiss Federal Institute for Forest, Snow and Landscape Research WSL, Birmensdorf, Switzerland  
 (konrad.bogner@yahoo.de)

09:45–10:00: EMS2015-525

Flood warning for the city of Venice using an Ensemble Prediction System tool

**Riccardo Mel**, Piero Lionello  
 University of Padua, Dipartimento di Ingegneria Civile, Edile ed Ambientale, Padova, Italy  
 (riccardo.mel@dicea.unipd.it)

10:00–10:15: EMS2015-624

Assessing the performance of ensemble streamflow forecasts produced by the rainfall forecasts from Australian numerical weather prediction models

**Durga Lal Shrestha**, David Robertson, James Bennett, Yong Song, Qj Wang  
 Land and Water Flagship, CSIRO, Australia

10:15–10:20:

Poster introductions

END OF ORAL PROGRAMME ASI11

### ASI12/OBS2 Sub-kilometre Scale Precipitation Variability and its Impact on Hydrology

**Convener:** Katharina Lengfeld  
**Co-Conveners:** Marco Clemens; Marie-claire ten Veldhuis; Auguste Gires; Sylvia Bohnenstengel  
**Lecture Room:** Vitosha

11:00–12:40

**Chairperson(s):** Marco Clemens, Katharina Lengfeld

11:00–11:15: EMS2015-66

Operational applications of dual-polarized weather radar in Finland

**Ljubov Nevvonen**  
 Finland (ljubov.nevvonen@fmi.fi)

11:15–11:30: EMS2015-39

Assessment of vertical variability of radar backscatter moments

**Marek Jacob**, Marco Clemens, Hans Münster, Felix Ament  
 Meteorological Institute of the University of Hamburg, Germany (marek.jacob@uni-hamburg.de)

11:30–11:45: EMS2015-40

Urban High-Resolution Precipitation Product for rainfall-runoff simulations: Combining C-Band and Local X-Band Radar Data

**Katharina Lengfeld**, Marc Berenguer, Marco Clemens, Felix Ament, Daniel Sempere-Torres  
 University of Hamburg, Meteorological Institute, Germany (katharina.lengfeld@zmaw.de), Universitat Politècnica de Catalunya, Centre de Recerca Aplicada en Hidrometeorologia, Barcelona, Spain

11:45–12:00: EMS2015-492

Implementation of temporal and spatial variable relationships of radar reflectivity and rainfall rate in a network of X-band radars

**Marco Clemens**, Katharina Lengfeld, Hans Münster, Felix Ament  
 Meteorological Institute, University of Hamburg, Germany

12:00–12:15: EMS2015-538

High resolution modelling of urban catchments

**Abdellah Ichiba**, Auguste Gires, Ioulia Tchiguirinskaia, Daniel Schertzer, Philippe Bompard  
 U. Paris-Est, Ecole des Ponts ParisTech, LEESU, Marne-la-Vallée, France  
 (abdellah.ichiba@leesu.enpc.fr), Conseil général du Val-de-Marne, Direction des Services de l'Environnement et de l'Assainissement (DSEA), Bonneuil-sur-Marne, France

**12:15–12:30: EMS2015-134**

Statistically quantifying rain radar reflectivity errors using measurements from a radar network  
**Claire Merker**, Marco Clemens, Katharina Lengfeld, Felix Ament  
 Meteorologisches Institut, Hamburg, Germany  
 (claire.merker@uni-hamburg.de)

**12:30–12:40:**

Introduction to Posters

**END OF ORAL PROGRAMME ASI12/OBS2****ASI13 Urban Climate**

**Convener:** Martin Wattenbach

**Co-Conveners:** Dr. Martin Rumberg; Sascha Henninger

**Lecture Room:** Vitosha

**14:00–16:00**

**Chairperson(s):** Sascha Henninger & Martin Wattenbach

**14:00–14:15: EMS2015-20 (YSTA)**

A study of the Urban Heat Island of Barcelona using a fast urban climate model  
**Markel García-Díez**, Joan Ballester, Koen De Ridder, Hans Hooyberghs, Dirk Lauwaet, Xavier Rodó  
 Catalan Institute of Climate Sciences, Climate Dynamics and Impacts Unit, Spain  
 (markel.garcia@ic3.cat)

**14:15–14:30: EMS2015-417**

Scaling the maximum Urban Heat Island for mid-latitude cities  
 Natalie Theeuwes, Gert-Jan Steeneveld, Reinder Ronda, **Albert A.M. Holtslag**

**14:30–14:45: EMS2015-464**

Impact of Urban Heat Island on the thermal regime of buildings in Bucharest (Romania)  
 Dan Constantinescu, **Sorin Cheval**, Alexandru Dumitrescu, Gabriela Caracas  
 National Meteorological Administration, Bucharest, Romania (sorin.cheval@meteoromania.ro)

**14:45–15:00: EMS2015-251**

Urban Heat Island or Urban Heat Bubble?  
 Sergio Buricelli, Renato R. Colucci, Paolo Galluccio, Riccardo Milocco, Luigi Molinari, Cristian Noacco, Sergio Nordio, Gianluca Pistrin, Furio Pieri, Roberto Stampetta, Alberto Villani, **Fulvio Stel**  
 Unione Meteorologica del Friuli Venezia Giulia  
 (fulvio.stel@arpa.fvg.it)

**15:00–15:15: EMS2015-257**

Spatial pattern of urban sensible heat flux retrieved by means of remote-sensing observations  
**Lech Gawuc**, Mariusz Zielinski, Joanna Struzewska  
 Warsaw University of Technology, Faculty of Environmental Engineering, Warsaw, Poland  
 (lech.gawuc@is.pw.edu.pl)

**15:15–15:30: EMS2015-586**

Measured and modeled tropospheric profiles over Sofia  
**Orlin Gueorguiev**, Ekaterina Batchvarova  
 National Institute of Meteorology and Hydrology, Sofia, Bulgaria (orlin.gueorguiev@meteo.bg, ekaterina.batchvarova@meteo.bg)

**15:30–15:45: EMS2015-620**

On the assessment of urban land-surface impacts on climate in regional climate model simulations over Central Europe  
 Peter Huszar, Michal Belda, **Tomas Halenka**  
 Charles University in Prague, Fac. of Mathematics and Physics, Prague, Czech Republic  
 (tomas.halenka@mff.cuni.cz)

**15:45–16:00: EMS2015-196**

Techniques for Modeling Approaches of the Main Sources of Anthropogenic Heat in the so-called Heat Islands and Their Behavior  
**Premysl Derbek**, Jana Blumelova, Jaroslav Resler, Pavel Jurus, Pavel Hrubes  
 Faculty of Transportation Sciences, Department of Transport Telematics, Czech Technical University in Prague, Prague, Czech Republic  
 (derbek@k620.fd.cvut.cz)

**END OF ORAL PROGRAMME ASI13****ASI14 Meteorological processes, atmospheric composition and pollution**

**Convener:** Charles Chemel

**Co-Conveners:** Martin Piringer; Astrid Manders; Alexander Baklanov

**Lecture Room:** Sofia III

**09:00–10:30**

**Chairperson(s):** Charles Chemel

**09:00–09:15:**

Introduction

**09:15–09:30: EMS2015-130**

Computer simulations of the atmospheric composition climate of Bulgaria  
**Georgi Gadzhev**, Kostadin Ganev, Nikolay Miloshev, Dimiter Syrakov, Maria Prodanova  
 National Institute of Geophysics, Geodesy and Geography, Bulgarian Academy of Sciences, Acad. G. Bonchev Str., Bl.3, Sofia 1113, Bulgaria (ganev, ggadjev, miloshev@geophys.bas.bg)

**09:30–09:45: EMS2015-38**

A Statistical Comparison of Observed and Modelled Daily PM10 Levels in Marmara Region  
**Duygu Ozcomak**, Yasar Burak Oztaner, Luca Pozzoli, Tayfun Kindap, Alper Unal  
 Eurasia Institute of Earth Science, Climate and Marine Science, Istanbul Technical University  
 (ozcomak@itu.edu.tr, oztaner@itu.edu.tr, pozzoli.ist@gmail.com, kindap@itu.edu.tr, alper.unal@gmail.com)

**09:45–10:00: EMS2015-345**

Inter-comparison and evaluation of dust prediction models in the Sahel region  
**Enric Terradellas**, Gerardo Garcia-Castrillo, Sara Basart, Emilio Cuevas, Beatrice Marticorena  
 AEMET, Barcelona, Spain (eterradellasj@aemet.es)

**10:00–10:15: EMS2015-253**

Sensitivity of ammonia concentrations to meteorology  
 Carlijn Hendriks, Maria Quaade, Richard Kranenburg,  
**Astrid Manders**, Martijn Schaap  
 TNO, Climate, Air and Sustainability, Utrecht,  
 Netherlands (astrid.manders@tno.nl)

**10:15–10:30: EMS2015-507**

5-year evaluation of Ecoforecast.eu - air quality forecasting system for Poland  
 Jacek W. Kaminski, Pawel Durka, **Joanna Struzewska**  
 Warsaw University of Technology, Department of Environmental Engineering, Warsaw, Poland

**10:30 Coffee break****11:00–13:00**

**Chairperson(s):** Astrid Manders

**11:00–11:15: EMS2015-410**

Air Quality Modelling with WRF-CMAQ over Europe - Focus on Ozone and Particulate Matter  
**Dimiter Syrakov**, Maria Prodanova, Emilia Georgieva, Kiril Slavov  
 National Institute of Meteorology and Hydrology, Bulgarian Academy of Sciences, Sofia, Bulgaria  
 (emilia.georgieva@meteo.bg)

**11:15–11:30: EMS2015-510**

Modelled and observed vertical ozone distribution in the troposphere over Europe  
**Joanna Struzewska**, Jacek W. Kaminski, Maciej Jefimow, Karol Szymankiewicz  
 Warsaw University of Technology, Department of Environmental Engineering, Warsaw, Poland  
 (struzw@is.pw.edu.pl)

**11:30–11:45: EMS2015-631**

Results of the modelling exercises in COST Action ES1006: local-scale models for accidental releases in built environments  
 Silvia Trini Castelli, Kathrin Baumann-Stanzer, Bernd Leidl, **Ekaterina Batchvarova**, Maya Milliez, Eva Berbekar, Anniko Rakai, Vladimir Fuka, Antti Hellste, Anton Petrov, George Efthimiou, Spyros Andronopoulos, Gianni Tinarelli, Richard Tavares, Patrick Armand, Claudio Gariazzo, Maxime Nibart, all COST ES1006 Members  
 National Institute of Meteorology and Hydrology-Bulgarian Academy of Sciences, Sofia, Bulgaria

**11:45–12:00: EMS2015-254**

Impacts of air masses origin and trajectory on atmospheric phenomena  
 Arianna Miniussi, Dario Giaiotti, **Fulvio Stel**  
 Regional Agency for the Environmental Protection of Friuli Venezia Giulia, Regional Center fo Environmental Modeling, Palmanova, Italy (fulvio.stel@arpa.fvg.it)

**12:00–12:15: EMS2015-210**

Study of diurnal pattern of surface ozone with special emphasis to nighttime ozone at multiple urban sites in the United Kingdom  
**Pavan Kulkarni**, Daniele Bortoli, Ana Maria Silva, Claire Reeves  
 Instituto de Ciências da Terra (ICT), University of Evora (UE), Evora, Portugal (pavannpl@yahoo.co.in)

**12:15–12:30: EMS2015-231**

Lidar observations of tropical stratospheric aerosol transfer over the Western Siberia  
**Alexander Cheremisin**, Valery Marichev, Pavel Novikov  
 Siberian Federal University, Krasnoyarsk, Russian (aacheremisin@gmail.com), Krasnoyarsk Railway Institute, Krasnoyarsk, Russia

**12:30–12:45:**

Introduction to Posters

**12:45–13:00:**

Discussion

**END OF ORAL PROGRAMME ASI14**

## Climate

### Monitoring climate and climate change

### CL1 Climate monitoring; data rescue, management, quality and homogenization

**Convener:** Manola Brunet-India

**Co-Conveners:** Hermann Mächel; Victor Venema; Ingeborg Auer; Dan Hollis

**Lecture Room:** Kyoto

**14:00–16:00**

**Chairperson(s):** Manola Brunet

**14:00–14:15: EMS2015-49**

Transforming the Availability Climate Data in Africa: The ENACTS Approach

**Tufa Dinku**, Remi Cousin, John del Corral  
Columbia University, International Research Institute for Climate and Society(IRI), Palisades, United States  
(tufa@cheerful.com)

**14:15–14:30: EMS2015-74**

Impact of daily temperature homogenization on cold extremes in Switzerland

**Renate Auchmann**, Franz Kuglitsch, Andrea Toreti, Stefan Brönnimann  
University of Bern, Institute of Geography, Oeschger Center for Climate Change Research, Bern, Switzerland  
(renate.auchmann@giub.unibe.ch)

**14:30–14:45: EMS2015-76**

Overview of the RHtests\_dlyPrpc software package for homogenization of daily precipitation

**Xiaolan L. Wang**, Yang Feng  
Environment Canada, Climate Research Division, Toronto, Canada (xiaolan.wang@ec.gc.ca)

**14:45–15:00: EMS2015-84**

Automatic networking for the homogenization of large climatic datasets

**Peter Domonkos**  
Univ. Rovira i Virgili, Campus Terres de l'Ebre, Centre for Climate Change, Tortosa, Spain  
(peter.domonkos@urv.cat)

**15:00–15:30: EMS2015-557**

Is the global mean land surface temperature trend too low? (solicited)

**Victor Venema**, Phil Jones, Ralf Lindau, Tim Osborn  
University of Bonn, Meteorological institute, Bonn, Germany (victor.venema@uni-bonn.de)

**15:30–15:45: EMS2015-218**

Homogenization in areas of sparse data networks: a case study applying HOMER

**Stefanie Gubler**, Stefan Hunziker, Michael Begert, Mischa Croci-Maspoli, Thomas Konzelmann, Stefan Brönnimann, Clara Oria, Gabriela Rosas  
Federal Office of Meteorology and Climatology MeteoSwiss, Zürich, Switzerland

**15:45–16:00: EMS2015-519**

Description of the bias introduced by the transition from Conventional Manual Measurements to Automatic Weather Station through the analysis of European and American parallel datasets.

**Enric Aguilar**, Petr Stepanek, Victor Venema, Renate Auchmann, Fabricio Daniel dos Santos Silva, Erik Engström, Alba Gilabert, Zoia Kretova, Jose Antonio Lopez-Díaz, Yolanda Luna Rico, Clara Oria Rojas, Marc Prohom, Domingo Rasilla, Mozar Salvador, Gregor Vetacnik, Yzhak Yosef  
Universitat Rovira i Virgili, Center for Climate Change, C3,Tarragona/Tortosa, Spain.

**END OF ORAL PROGRAMME CL1**

### Understanding processes and climate change

### CL7 Synoptic climatology

**Conveners:** Radan Huth; Rasmus Benestad

**Lecture Room:** Sofia II

**11:00–13:00**

**11:00–11:15: EMS2015-500**

20th Century extratropical cyclone climatology and risk assessment

**Filipa Varino**, Philippe Arbogast, Bruno Joly, Gwendal Riviere Riviére, Marie-Laure Fandeur, Henry Bovy  
Centre National de Recherches Météorologiques (CNRM)-Meteo-France, Toulouse,France

**11:15–11:30: EMS2015-491**

Cyclones producing positive and negative sea level extremes along the coast of the Mediterranean Sea

Piero Lionello, Dario Conte, **Marco Reale**

University of Trieste, Trieste, Italy

**11:30–11:45: EMS2015-200**

Analysis of observed tropical cyclones over the subtropical eastern North Atlantic

**Miguel Angel Gaertner**, Teresa Losada, Juan Jesús González-Alemán, Enrique Sánchez, Raquel Romera, Marta Domínguez, Victoria Gil, Clemente Gallardo  
University of Castilla-La Mancha, Environmental Sciences and Biochemistry Faculty, Toledo, Spain  
(Miguel.Gaertner@uclm.es)

**11:45–12:00: EMS2015-567**

Large scale dynamics preconditioning heavy precipitating events over southern France: a multi-variate weather regimes approach

**Bruno Joly**, Philippe Arbogast  
National Center for Meteorological Research (CNRM)  
Meteo France/GAME

**12:00–12:15: EMS2015-205**

Applicability of Dzerdzeevski's atmospheric circulation classification to northern-hemispheric climate variations

**Andreas Hoy**, Mait Sepp  
TU Bergakademie Freiberg, Interdisciplinary  
Environmental Research Centre, Germany

**12:15–12:30: EMS2015-207**

Daily Weather Types Computed from Early Instrumental Data back to 1763

**Mikhaël Schwander**, Stefan Brönnimann  
Institute of Geography, University of Bern, Switzerland  
(mikhael.schwander@giub.unibe.ch), Oeschger Centre  
for Climate Change Research, University of Bern,  
Switzerland

**12:30–12:45: EMS2015-397**

Region size matters - Statistical downscaling for more than a limited focus area

**Arne Spekat**, Wolfgang Enke  
Climate and Environment Consulting Potsdam GmbH,  
Potsdam, Germany (arne.spekat@cec-potsdam.de)

**12:45–13:00: EMS2015-536**

Statistical relationships between North Atlantic and Pacific circulation patterns and surface wind in North Eastern North America: annual to centennial variability  
**Etor E. Lucio-Eceiza**, J. Fidel González-Rouco, Jorge Navarro, Elena García-Bustamante, Hugo Beltrami  
Dpto. Astrofísica y Ciencias de la Atmósfera, Instituto de Geociencias (UCM-CSIC), Universidad Complutense de Madrid. Spain (eelucio@fis.ucm.es)

**END OF ORAL PROGRAMME CL7**

## Measurements and Observations

### OBS1/ASI8 Atmospheric measurements from the local to the regional scale: Concepts, new technologies and scientific progress

**Convener:** Frank Beyrich  
**Co-Convener:** Fred C. Bosveld  
**Lecture Room:** Sofia III

**14:00–16:00**

**Chairperson(s):** F. Beyrich

#### Profiles from Lidars and Sodars

**14:00–14:30: EMS2015-63**

Advanced Raman lidars for humidity, temperature and aerosol observations (solicited)

**Valentin Simeonov**, Todor Dinoev, Ilya Serikov, Pablo Ristori, Hubert van den Bergh, Marc Parlange, Martin Froidevaux, Yury Arshinov, Sergey Bobrovnikov, Bertrand Calpini, Alexander Haeefele  
 EPFL, ISTE, EFLUM, Lausanne, Switzerland  
 (valentin.simeonov@epfl.ch)

**14:30–14:45: EMS2015-523**

Synergy of Raman lidar and microwave radiometry for high vertically resolved atmospheric profiles

**Maria Barrera Verdejo**, Susanne Crewell, Ulrich Löhnert, Emiliano Orlandi, Paolo Di Girolamo, Andreas Fix, Martin Wirth  
 University of Cologne, Institute of Geophysics and Meteorology, Köln, Germany (mbarrera@smail.uni-koeln.de)

**14:45–15:00: EMS2015-386**

First steps towards a European Doppler lidar network for meteorological applications

**Ewan J. O'Connor**, Anne Hirsikko  
 Finnish Meteorological Institute, Helsinki, Finland  
 (ewan.oconnor@fmi.fi), Department of Meteorology, University of Reading, UK

**15:00–15:15: EMS2015-339**

On a flexible wind retrieval algorithm from measurements with a new generation of Doppler lidar systems for high resolution vertical wind profile observations

**Eileen Päsche**, Volker Lehmann, Ronny Leinweber  
 DWD, Met. Observatory Lindenberg, Met. Observatory Lindenberg, Germany, Tauche (OT Lindenberg), Germany (eileen.paeschke@dwd.de)

**15:15–15:30: EMS2015-286**

Studying the temporal and spatial evolution of turbulent mixing with a scanning Doppler lidar

**Ville Vakkari**, Ewan J. O'Connor  
 Finnish Meteorological Institute, Helsinki, Finland  
 (ville.vakkari@fmi.fi)

**15:30–15:45: EMS2015-281**

Multiple-point sodar observations of structures in the summertime ABL over slightly sloped glacier in Antarctica

**Rostislav Kouznetsov**, Priit Tisler, Timo Vihma  
 Finnish Meteorological Institute, Air Quality, Helsinki, Finland (rostislav.kouznetsov@fmi.fi), A.M. Obukhov institute for atmospheric physics, Moscow, Russia

**15:45–16:00: EMS2015-340**

One-year comparison of PBL structure derived by ceilometer, radiosonde, and weather prediction model in Sofia, Bulgaria

**Ventsislav Danchovski**, Guergana Guerova, Danko Ivanov, Plamen Savov, Nikolay Kolev, Tsvetina Evgenieva, Evgeni Donev  
 Faculty of Physics, Department of Meteorology and Geophysics, Sofia University "St. Kliment Ohridsky", Sofia, Bulgaria (danchovski@phys.uni-sofia.bg)

#### ORAL PROGRAMME OBS1/ASI8 CONTINUES THURSDAY

### OBS3/ASI19 Airborne meteorology

**Convener:** Clemens Drüe

**Co-Conveners:** Jens Bange; Paulina Valtchvanova  
**Lecture Room:** Kyoto

**09:00–10:30**

**Chairperson(s):** Paulina Valtchvanova

**09:00–09:15: EMS2015-502**

NARVAL-North: Comparison of Cloud Properties from Aircraft Measurements with COSMO Simulations

**Heike Konow**, Felix Ament, Susanne Crewell, Lutz Hirsch, Christian Klepp, Mario Mech, Emiliano Orlandi  
 Meteorological Institute, Hamburg University, Germany  
 (heike.konow@uni-hamburg.de)

**09:15–09:30: EMS2015-125**

An airborne case study on the influence of atmospheric boundary layer dynamics on the new particle formation

**Andreas Platis**, Barbara Altstädter, Birgit Wehener, Norman Wildmann, Astrid Lampert, Markus Hermann, Wolfram Birmilli, Jens Bange  
 Universität Tübingen, ZAG, Environmental Physics, Tübingen, Germany (andreas.platis@uni-tuebingen.de)

**09:30–09:45: EMS2015-606**

Airborne investigations of a fully turbulent stable boundary layer over a polynya near Greenland

Günther Heinemann, **Clemens Drüe**  
 Universität Trier, Umweltmeteorologie / environmental meteorology, Trier, Germany (druee@uni-trier.de)

**09:45–10:00: EMS2015-203**

RPA-borne Measurements of Vertical Profiles and Turbulent Fluxes of the Near-Coastal North Sea Boundary-Layer during Strong Winds  
**David Tupman**, Andreas Platis, Norman Wildmann, Jens Bange  
Centre for Applied Geosciences, Tübingen, Germany  
(david-james.tupman@uni-tuebingen.de)

**10:00–10:15: EMS2015-365**

Mode S and ADS-B as a Source of Clear-Air Turbulence Measurements  
**Jacek M. Kopec**, Kamil Kwiatkowski, Szymon P. Malinowski, Siebren de Haan  
Faculty of Physics, University of Warsaw, Warszawa, Poland (jkopec@icm.edu.pl), Interdisciplinary Centre for Mathematical and Computational Modeling, University of Warsaw, Warszawa, Poland

**10:15–10:30: EMS2015-360**

Balloon-borne accelerometer observations of atmospheric turbulence  
**Graeme Marlton**, Giles Harrison, Keri Nicoll, Paul Williams  
University of Reading, Meteorology, Reading, United Kingdom (g.j.marlton@pgr.reading.ac.uk)

**END OF ORAL PROGRAMME OBS3/ASI19**



## Special Events

### SPS3 Public Great Debate: 'Big Data' in Meteorology: Opportunities and Challenges

**Convener:** Will Lang

**Co-Convener:** Robert Mureau

**Poster Area:** Sofia II

**Introduction:** 17:15, Sofia II

**Attendance Time:** 16:15–17:00

#### **GB1: EMS2015-245**

Big data in the context of Euskalmet activities

**Santiago Gaztelumendi**, Jose Daniel Gomez de

Segura, Kepa Otxoa de Alda, Judith Orue, Jesus

Torres, José Antonio Aranda

Basque Meteorology Agency (EUSKALMET), TECNALIA

R&I, Energy and Environment Division, Meteorology

Area

#### **GB2: EMS2015-413**

SINOBAS, a tool for collaborative mapping applied to

observation of "Singular" weather phenomena

**Delia Gutiérrez Rubio**, Jesús Riesco Martín, Salvador

Ponce Gutiérrez

AEMET, Sevilla, Spain (dgutierrezr@aemet.es)

**END OF POSTER PROGRAMME SPS3**

## Applications of Meteorology

### ECAM2/CE3 Delivery and communication of impact based forecasts and risk based warnings

**Conveners:** Dee Cotgrove, Haleh Kootval  
**Co-Conveners:** Tanja Cegnar  
**Poster Area:** Sofia I  
**Chairperson(s):** Dee Cotgrove/Haleh Kootval  
**Attendance Time:** 16:15–17:00

#### P6: EMS2015-458

Delivery and communication of severe weather events in Basque Country: the Euskalmet case.

**Santiago Gaztelumendi**, Iñaki Orbe, Onintze Salazar, Ana Lopez, José Antonio Aranda, Pedro Anitua  
 Basque Meteorology Agency (EUSKALMET), TECNALIA R&I, Energy and Environment Division, Meteorology Area

**END OF POSTER PROGRAMME ECAM2/CE3**

### ECAM5/ASI20 Reducing Weather Risks to Transport: air, sea and land

**Convener:** Fraser Ralston  
**Co-Conveners:** Thomas Hauf, Christine Le Bot  
**Poster Area:** Sofia I  
**Chairperson(s):** Christine LeBot  
**Introduction:** 12:45, Sofia III  
**Attendance Time:** 16:15–17:00

#### P7: EMS2015-152

Low visibility now-casting based on statistical methods at Vienna airport

**Philipp Kneringer**, Sebastian J. Dietz, Georg J. Mayr, Achim Zeileis  
 Institute of Meteorology and Geophysics, University Innsbruck, Austria (philipp.kneringer@uibk.ac.at)

#### P8: EMS2015-533

Forecasting Low-Visibility Conditions with Tree-Based Statistical Models

**Sebastian J. Dietz**, Philipp Kneringer, Georg J. Mayr, Achim Zeileis  
 Institute of Atmospheric Science, University of Innsbruck, Austria (sebastian.dietz@uibk.ac.at)

#### P9: EMS2015-594

L Probability Distribution Function and One Self-Comparison Theoretical Standard of Dry and Wet Index

**Wanli Wang**, Juan Peng  
 Wuhan University, School of Resource and Environmental Science, Wuhan, China, 430079, Research Centre of climate and atmospheric environment, Wuhan, China (xiaowanw2002@yahoo.com)

**END OF POSTER PROGRAMME ECAM5/ASI20**

## The Atmospheric System and its Interactions

### ASI11 Interfacing hydrological and meteorological models in forecasting system

**Convener:** Bodo Ahrens  
**Co-Conveners:** Massimiliano Zappa, Herbert Formayer  
**Poster Area:** Sofia I  
**Chairperson(s):** B. Ahrens  
**Introduction:** 10:15, Vitosha  
**Attendance Time:** 16:15–17:00

#### P47: EMS2015-126

Ensemble-based land surface data assimilation with TERRA  
 Julian Toedter, **Bodo Ahrens**  
 University of Frankfurt, Institute for Atmospheric and Environmental Sciences, Frankfurt am Main, Germany  
 (bodo.ahrens@iau.uni-frankfurt.de)

#### P48: EMS2015-512

Postprocessing of medium range hydrological ensemble forecasts making use of reforecasts  
**Joris Van den Bergh**, Emmanuel Roulin  
 RMI Belgium (jorisvdb@meteo.be)

#### END OF POSTER PROGRAMME ASI11

### ASI12/OBS2 Sub-kilometre Scale Precipitation Variability and its Impact on Hydrology

**Convener:** Katharina Lengfeld  
**Co-Conveners:** Marco Clemens, Marie-claire ten Veldhuis, Auguste Gires, Sylvia Bohnenstengel  
**Poster Area:** Sofia I  
**Chairperson(s):** Marco Clemens, Katharina Lengfeld  
**Introduction:** 12:30, Vitosha  
**Attendance Time:** 16:15–17:00

#### P49: EMS2015-133

Quantifying errors in radar rainfall estimates using a data assimilation method  
**Claire Merker**, Marco Clemens, Katharina Lengfeld, Felix Ament  
 Meteorologisches Institut, Universität Hamburg, Germany (claire.merker@uni-hamburg.de)

#### P50: EMS2015-526

Analysis of convective storms in Estonia based on the data from polarimetric weather radars and lightning detectors  
**Tanel Voormansik**, Piia Post  
 University of Tartu, Institute of Physics, Estonia  
 (tanel.voormansik@ut.ee)

#### END OF POSTER PROGRAMME ASI12/OBS2

### ASI13 Urban Climate

**Convener:** Martin Wattenbach  
**Co-Conveners:** Dr. Martin Rumberg, Sascha Henninger  
**Poster Area:** Sofia I  
**Chairperson(s):** Martin Rumberg  
**Introduction:** 16:00, Vitosha  
**Attendance Time:** 16:15–17:00

#### P51: EMS2015-3

Silver-linden trees - the perfect urban tree specie?  
**Timo Wundsam**, Sascha M. Henninger  
 University of Kaiserslautern, Dept. of Physical Geography, Kaiserslautern, Germany  
 (wundsam@rhrk.uni-kl.de)

#### P52: EMS2015-195

On the Development of Urban Adaptation Strategies Using Ecosystem-based Approaches to Adaptation - Impact Evaluation  
**Jana Blumelova**, Premysl Derbek, Jaroslav Resler, Pavel Jurus, Pavel Hrubes  
 Faculty of Transportation Sciences, Department of Transport Telematics, Czech Technical University in Prague, Czech Republic (blumelova@k620.fd.cvut.cz)

#### P53: EMS2015-442

Impact of the Land-Use Data on the Simulation of the Bucharest Urban Heat Island Using the WRF Modelling System  
 Amalia Iriza, **Sabina Stefan**, Rodica Claudia Dumitrache  
 University of Bucharest, Faculty of Physics, Atmospheric Physics, Bucharest, Romania  
 (sabina\_stefan@yahoo.com)

#### P54: EMS2015-479

Analysis of Bucharest's Urban Heat Island between 1961 - 2013  
**Simona Andrei**, Sabina Stefan, Nicu Barbu, Valentin Florin Benciu  
 National Institute of R&D in Optoelectronics, Remote Sensing Department, Magurele - Bucharest, Romania  
 (simona.andrei@inoe.ro)

#### P55: EMS2015-529

Climate change adaptation potentials in Budapest - the roles of block rehabilitation and urban vegetation  
**Csenge Dian**, Cathy Fricke, Zsuzsanna Dezső, Judit Bartholy, Rita Pongrácz  
 Eötvös Loránd University, Dept. of Meteorology, Budapest, Hungary

#### END OF POSTER PROGRAMME ASI13

## ASI14 Meteorological processes, atmospheric composition and pollution

**Convener:** Charles Chemel

**Co-Conveners:** Martin Piringer, Astrid Manders, Alexander Baklanov

**Poster Area:** Sofia I

**Chairperson(s):** Martin Piringer

**Introduction:** 12:30, Kyoto

**Attendance Time:** 16:15–17:00

### P56: EMS2015-11

Numerical study of the air quality in the city of Sofia - some preliminary results

**Ivelina Georgieva**, Georgi Gadzhev, Kostadin Ganey, Maria Prodanova, Dimiter Syrakov, Nikolay Miloshev  
National Institute of Geophysics, Geodesy and Geography, Bulgarian Academy of Sciences, Sofia, Bulgaria (iivanova@geophys.bas.bg)

### P57: EMS2015-472

Precipitation Chemistry in the Bulgaria-Turkey Cross - Border Region for Different Synoptic Situations

**Emilia Georgieva**, Ilker Oruc, Elena Hristova, Krum Velchev, Hristina Kirova, Valeri Nikolov, Damyan Barantiev, Dimiter Syrakov, Maria Prodanova, Ekaterina Batchvarova, Blagorodka Veleva, Anton Petrov, Rozeta Neikova, Hristomir Branzov, Sevdalina Turmanova, Svetlana Tonkova, Maria Kolarova, Iglia Etropolska, Kiril Slavov

National Institute of Meteorology and Hydrology, Bulgarian Academy of Sciences, Sofia, Bulgaria (emilia.georgieva@meteo.bg)

### P58: EMS2015-21

Short term forecast of Total Ozone Content over Bulgaria based on autocorrelation analysis

**Petya Kaleyna**, Plamen Mukhtarov, Nikolay Miloshev  
NIGGG - Bulgarian Academy of Sciences, Physics of Atmosphere, Sofia, Bulgaria (pkaleyna@geophys.bas.bg)

### P59: EMS2015-559

A preliminary Analysis of green-house gases at the coastal site Lamezia Terme, in central Mediterranean area, using data of different instruments

**Daniel Gulli**, Teresa Lo Feudo, Ivano Ammoscato, Elenio Avolio, Rosamaria Calaudi, Stefania Montesanti, Paolo Bonasoli, Paolo Cristofanelli, Claudia Roberta Calidonna  
CNR - Institute of Atmospheric Sciences and Climate, Lamezia Terme, Italy

### P60: EMS2015-459

Preliminary analysis of aerosols optical properties at the coastal site Lamezia Terme, in central Mediterranean area, integrating data of different instruments

**Teresa Lo Feudo**, Daniel Gulli, Luca Tiriolo, Paolo Cristofanelli, Angela Marinoni, Paolo Bonasoni, Claudia Roberta Calidonna  
ISAC-CNR, UOS of Lamezia Terme, Italy (t.lofeudo@isac.cnr.it)

### P61: EMS2015-183

TransClim: A fast climate-response-model for evaluating new developments in road traffic

**Vanessa Rieger**, Volker Grewe  
DLR, Institute of Atmospheric Physics, Wessling, Germany (vanessa.rieger@dlr.de)

### P62: EMS2015-191

Application of PCA and FA models for source apportionment of PM10 in Sofia

Blagorodka Veleva, **Elena Hristova**, Maria Kolarova, Emilia Nikolova, Raliza Valcheva  
National Institute of Meteorology and Hydrology, NIMH-BAS, Tsarigradsko sh. 66, Sofia, Bulgaria (elena.hristova@meteo.bg)

### P63: EMS2015-24

High resolution modeling of the upper troposphere and lower stratosphere region over the Arctic – GEM-AC simulations for current climate with and without aviation emissions.

**Magdalena Porebska**, Joanna Struzewska, Jacek Kaminski  
Warsaw University of Technology, Environmental Engineering, Warsaw, Poland (magdalena.porebska@is.pw.edu.pl)

### P64: EMS2015-531

Simulating present and future aerosol-cloud interactions using a regional aerosol-climate model REMO-HAM

**Armelle Reca Remedio**, Natalia Sudarchikova, Claas Teichmann, Joni-Pekka Pietikäinen, Daniela Jacob, Guy Brasseur  
Climate Service Center, Helmholtz-Zentrum Geesthacht, Hamburg, Germany (armelle.remedio@hzg.de)

### P65: EMS2015-173

Impact of urban emissions on tropospheric chemistry and climate

**Peter Huszar**, Michal Belda, Tomas Halenka  
Charles University, Meteorology & environment protection, Prague, Czech Republic (huszarpet@gmail.com)

**END OF POSTER PROGRAMME ASI14**

## Climate

### Monitoring climate and climate change

### CL1 Climate monitoring; data rescue, management, quality and homogenization

**Convener:** Manola Brunet-India

**Co-Conveners:** Hermann Mächel, Victor Venema, Ingeborg Auer, Dan Hollis

**Poster Area:** Sofia I

**Chairperson(s):** Inge Auer, Victor Venema, Manola Brunet

**Introduction:** 16:00, Kyoto

**Attendance Time:** 16:15–17:00

#### DARE and climate data management

##### P68: EMS2015-280

Long-term variability in seasonal march of rainfall at Manila since the late of the 19th century reconstructed by data rescue

**Ikumi Akasaka**, Hisayuki Kubota, Jun Matsumoto, Masumi Zaiki, Esperanza O. Cayan, Flavia D. Hilario

Senshu University, Japan (akasaka-i@isc.senshu-u.ac.jp)

##### P69: EMS2015-602

Improving the climate data management in the meteorological service of Angola: Experience from SASSCAL

Rafael Posada, Jens Riede, Domingos Nascimento, Francisco Osvaldo S. Neto, Albert Mhanda, Samuel Machua, **Frank Kaspar**

Deutscher Wetterdienst, National Climate Monitoring, Offenbach, Germany (frank.kaspar@dwd.de)

##### P70: EMS2015-636

Rescue and quality control of European sub-daily data  
**Linden Ashcroft**, Joan R. Coll, Mercè Castellà, Peter Domonkos, Enric Aguilar, Javier Sigró, Manola Brunet-India

Centre for Climate Change, Geography Department, University Rovira i Virgili, Tortosa, Spain (lindenclaire.ashcroft@urv.cat), Climatic Research Unit, School of Environmental Sciences, University of East Anglia, Norwich, UK

#### Quality Control and Homogenisation

##### P71: EMS2015-326

Data quality of Central Andean temperature and precipitation measurements

**Stefan Hunziker**, Stefanie Gubler, Clara Oria, Delia Acuña, Juan Calle, Isabel Moreno, Marcos Andrade, Fernando Velarde, Stefan Broennimann, Mischa Croci-Maspoli, Thomas Konzelmann, Gualberto Carrasco Oeschger Centre for Climate Change Research and Institute of Geography, University of Bern, Switzerland

##### P72: EMS2015-356

Recent improvements to ECA&D and E-OBS

**Gerard van der Schrier**, Else van den Besselaar, Christiana Photiadou, Albert Klein Tank, Ge Verver Royal Netherlands Meteorological Institute, De Bilt, Netherlands (schrier@knmi.nl)

##### P73: EMS2015-369

Quality control of the RMI's AWS wind observations

**Cedric Bertrand**

Royal Meteorological Institute of Belgium, Climatology, Brussels, Belgium (Cedric.Bertrand@meteo.be)

##### P74: EMS2015-449

Quality Control of the Belgian Historical Weather Data

**Charles Delvaux**, Olivia Bleeckx, Michel Journée, Cédric Bertrand

Royal Meteorological Institute of Belgium, Brussels, Belgium

##### P75: EMS2015-513

Overview and updates of the RHtestsV5 data homogenization software package

**Xiaolan L. Wang**, Yang Feng

Environment Canada, Climate Research Division, Toronto, Canada (xiaolan.wang@ec.gc.ca)

##### P76: EMS2015-547

Testing of monthly satellite climate data records on temporal and spatial homogeneity

**Kathrin Graw**, Jörg Trentmann, Rainer Hollmann Deutscher Wetterdienst, Offenbach, Germany (kathrin.graw@dwd.de, joerg.trentmann@dwd.de, rainer.hollmann@dwd.de)

##### P77: EMS2015-556

Inhomogeneities in daily data and their removal

**Victor Venema**, Enric Aguilar, Renate Auchmann, Ingeborg Auer, Theo Brandsma, Barbara Chimani, Alba Gilabert, Olivier Mestre, Andrea Toreti, Gregor Vertacnik

University of Bonn, Meteorological institute, Germany (victor.venema@uni-bonn.de)

#### Miscellaneous

##### P78: EMS2015-357

Evolution of temperature and precipitation in France since the 1950s a new homogenised dataset

**Brigitte Dubuisson**, Anne-Laure Gibelin, Lola Corre, Thumette Madec

Meteo-France, DCLIM/DEC, Toulouse Cedex, France (brigitte.dubuisson@meteo.fr)

##### P79: EMS2015-520

Variability of solar radiation in a Mediterranean city (Lecce, Southern Italy)

**Riccardo Buccolieri**, Alessandro Rizzo, Silvana Di Sabatino, Piero Lionello

University of Salento, DISTEBA, Lecce, Italy (piero.lionello@unisalento.it)

**P80: EMS2015-268**

Spatial distribution of water surface evaporation, potential evapotranspiration and climatic indicators of humidification in Slovakia

**Katarína Mikulová**, Maros Turna, Peter Kajaba, Pavel Stastny, Pavol Nejedlík  
Slovak Hydrometeorological Institute, Bratislava, Slovakia (peter.kajaba@shmu.sk)

**P81: EMS2015-270**

Spatial distribution of the hazardous atmospheric phenomena in Slovakia

**Katarína Mikulová**, Pavel Stastny, Pavol Nejedlík, Gabriela Ivanáková  
Slovak Hydrometeorological Institute, Bratislava, Slovakia (peter.kajaba@shmu.sk)

**END OF POSTER PROGRAMME CL1**

## Understanding processes and climate change

### CL7 Synoptic climatology

**Conveners:** Radan Huth, Rasmus Benestad

**Poster Area:** Sofia I

**Introduction:** 16:00, Sofia II

**Attendance Time:** 16:15–17:00

**P110: EMS2015-70**

Thermodynamic configurations associated with heavy rainfall in Eastern Romania

**Daniel Carburaru**, Sorin Burcea  
National Meteorological Administration, Bucharest, Romania

**P111: EMS2015-198**

Mechanism of Circulation over Europe in Case of Heavy Rainfalls and Floods in Central Europe

**Marjan Sandev**  
Czech Republic (sandev@chmi.cz)

**P112: EMS2015-238**

Analysis of Subtropical Cyclones within the Northeastern Atlantic

**Juan Jesús González-Alemán**, Francisco Valero, Francisco Martín-León, Jenni Louise Evans  
Environmental Sciences Institute, University of Castilla-La Mancha, Toledo, Spain (juanjego@uclm.es)

**P113: EMS2015-342**

Aerosol type assessment at Magurele (Romania) based on remote sensing measurements and large scale circulation patterns

**Simona Andrei**, Nicu Barbu, Anca Nemuc, Ioannis Biniotoglou, Alexandru Dandocsi, Horatiu Stăfanie  
National Institute of R&D in Optoelectronics, Remote Sensing Department, Magurele - Bucharest, Romania (simona.andrei@inoe.ro)

**P114: EMS2015-401**

Daily maximum winter temperature distributions in Romania and their link to the large-scale atmospheric circulation

Cristian Necula, **Sabina Stefan**, Marius Birsan  
University of Bucharest, Faculty of Physics, Atmospheric Physics, Bucharest, Romania (sabina\_stefan@yahoo.com)

**P115: EMS2015-503**

Seasonal wind variability in South Italy by comparing Synthetic Aperture Radar (SAR) and ground base stations and a correlation with NAO North Atlantic Oscillation Index

Rosamaria Calaudi, Teresa Lo Feudo, Elenio Avolio, Daniel Gullì, Claudia Roberta Calidonna, **Anna Maria Sempreviva**  
CNR - Institute of Atmospheric Sciences and Climate, Lamezia Terme, Italy, Wind Energy Department, Technical University of Denmark, Roskilde, Denmark

**END OF POSTER PROGRAMME CL7**

## Measurements and Observations

### OBS3/ASI19 Airborne meteorology (co-organized)

**Convener:** Clemens Drüe

**Co-Conveners:** Jens Bange, Paulina Valtchanova

**Poster Area:** Sofia I

**Chairperson(s):** Clemens Drüe

**Introduction:** 12:45, Vitoshka

**Attendance Time:** 16:15–17:00

**P118: EMS2015-131**

Validation of wind profiles generated by Doppler Weather radar as a tool for diagnostic of wind conditions in Sofia Airport approach zone

**Rosen Penchev**, Elisaveta Peneva, Orlin Gueorguiev, Ekaterina Batchvarova

Bulgarian Air Traffic Services Authority, Sofia, Bulgaria  
(rosen\_penchev@digicom.bg)

**P119: EMS2015-590**

Numerical simulations of fog cases at Sofia airport for 2011-2014

**Ilian Manafov**, Guergana Guerova  
Bulgaria (ilianm@mail.com) BULATSA

**P120: EMS2015-607**

Aeronautical Meteorological Services in BULATSA

**Paulina Valtchanova**, Rosen Penchev  
Bulgarian Air Traffic Services Authority, Sofia, Bulgaria,  
(paulina.valtchanova@bulatsa.com)

**END OF POSTER PROGRAMME OBS3/ASI19**

Thursday, 10 September 2015					
Room	Sofia II	Sofia III	Kyoto	Vitosha	Room
09:00–10:30	<b>CL2:</b> Spatial Climatology <i>to be continued at 17:00</i>  <b>10:15: Poster Introduction</b>	<b>OBS1/ASI8:</b> Atmospheric measurements from the local to the regional scale	<b>NWP2:</b> Numerical aspects and physical parametrization integration  <b>09:00 Poster introduction I</b> <b>10:15 Poster introduction II</b>	<b>CE1:</b> Media and Communication	09:00–10:30
10:30	Coffee Break				10:30
11:00–13:00	<b>CL10:</b> The Copernicus Climate Change Service implemented by ECMWF	<b>OBS1/ASI8</b> <i>continued</i>  <b>12:45: Poster Introduction</b>	<b>NWP4:</b> Probabilistic and ensemble forecasting at short and medium-range  <b>12:45: Poster Introduction</b>	<b>CE1</b> <i>continued</i>  <b>12:50: Poster Introduction</b>	11:00–13:00
13:00	Lunch Break				13:00
14:00–16:00	<b>CL6:</b> Global and regional reanalyses	<b>ASI16:</b> Energy Meteorology	<b>ECAM3:</b> Forecast Verification of High- Impact Weather		14:00–16:00
16:00	<b>P10: Poster Introduction</b> <b>CL6 and CL10</b>	<b>P11: Poster Introduction</b> <b>ASI16 - part I</b>	<b>P12: Poster Introduction</b> <b>ECAM3</b>		16:00
16:15–17:00	<p align="center"><b>Poster Session &amp; Coffee Break I Foyer and Room Sofia I</b></p> <p align="center"><i>Poster authors in attendance time for the following sessions:</i></p> <p align="center">ASI programme group: <b>ASI16 - part I</b> (P26 - P36)</p> <p align="center">CL programme group: <b>CL2</b> (P48 - P51), <b>CL6</b> (P52 - P55), <b>CL10</b> (P58 - P61)</p> <p align="center">CE programme group: <b>CE1</b> (P62 - P63)</p> <p align="center">OBS programme group: <b>OBS1/ASI8</b> (P64 - P74)</p> <p align="center">NWP programme group: <b>NWP2</b> (P75 - P81), <b>NWP3</b> (P82 - P84), <b>NWP4</b> (P85 - P88)</p>				16:15–17:00
17:00–18:30	<b>CL2</b> <i>continued</i>	<b>ASI16</b> <i>continued</i>  <i>...to be continued Friday</i>	<b>ECAM3</b>  <i>...to be continued Friday</i>	<b>NWP3:</b> Data assimilation and use of observations in meteorology & oceanography  <b>18:15: Poster Introduction</b>	17:00–18:30
Room	Sofia II	Sofia III	Kyoto	Vitosha	Room
19:30 Conference Dinner by registration only					

In the detailed daily programme (on page 69 to 84) the related ECAM, ASI, CL, CE, OBS and NWP sessions are listed in the following order: ECAM3, ASI16, CL2, CL6, CL10, CE1, OBS1/ASI8, NWP2, NWP3, NWP4.

#### Poster display time Thursday to Friday

Authors are kindly asked to put up their posters as soon as possible within the allocated display time in order to enable the conference participants to view their posters at any time within the display days, and to take them down on Friday between 13:00–14:00. Posters that have not been removed within this dismantling time will be removed and disposed off.



## Applications of Meteorology

### ECAM3 Forecast Verification of High-Impact Weather

**Convener:** Pertti Nurmi  
**Co-Convener:** Martin Göber  
**Lecture Room:** Kyoto

**14:00–16:00**

**Chairperson(s):** Pertti Nurmi

**14:00–14:15: EMS2015-299**

Is there a limit to forecast accuracy? The impact of temporal sampling

**Marion Mittermaier**, David Stephenson  
 Met Office, Weather Science, Exeter, United Kingdom  
 (marion.mittermaier@metoffice.gov.uk)

**14:15–14:30: EMS2015-485**

Spurious skill? Varying event frequencies, non-collapsibility and Simpson's Paradox in forecast verification

**Roger Harbord**  
 Met Office, Exeter, United Kingdom  
 (roger.harbord@metoffice.gov.uk)

**14:30–14:45: EMS2015-570**

A new verification method for assessing competing forecast performance with timing errors

**Eric Gilleland**, Gregory Roux, Barbara G. Brown, Tressa L. Fowler  
 National Center for Atmospheric Research, Research Applications Laboratory, Boulder, United States  
 (EricG@ucar.edu)

**14:45–15:00: EMS2015-261**

Verification of the accuracy and timeliness of Canadian Weather Warnings using the Weather Warning Index

**Laurence Wilson**, Nelson Shum, Tim Bullock  
 Environment Canada, Associate Scientist Emeritus, Canada (laurence.wilson@sympatico.ca)

**15:00–15:15: EMS2015-430**

Verification of wind gust warnings at DWD

**Cristina Primo**, Guido Schröder, Bernhard K. Reichert, Dirk Heizenreder  
 Deutscher Wetterdienst, Offenbach, Germany  
 (cristina.primo@dwd.de)

**15:15–15:30: EMS2015-204**

Probabilistic SAL - Evaluating the spatial properties of probabilistic precipitation simulations

**Sabine Radanovics**, Jean-Philippe Vidal, Eric Sauquet  
 LSCE/IPSL, UMR 8212 CEA-CNRS-UVSQ, Gif-sur-Yvette, France (sabine.radanovics@lsce.ipsl.fr)

**15:30–15:45: EMS2015-474**

Ensemble verification of cloud tracks

**Felix Fundel**  
 Deutscher Wetterdienst, Research & Development, Offenbach, Germany (ffundel@gmail.com)

**15:45–16:00: EMS2015-105**

Challenge to Develop and Demonstrate New User-Oriented Forecast Verification Metrics

**Elizabeth Ebert**, Thomas Haiden, Barbara Brown, Martin Goeber, Marion Mittermaier, Pertti Nurmi  
 Bureau of Meteorology, Melbourne, Australia  
 (e.ebert@bom.gov.au)

**16:00 Coffee break**

**17:00–18:30**

**Chairperson(s):** Martin Göber

**Sochi Olympics: FROST 2014**

**17:00–17:15: EMS2015-577**

The Framework of the WMOWWRP FROST-2014 Forecast Verification Setup and Activities (solicited)  
**Pertti Nurmi**, Anastasia Bundel, Tatiana Dmitrieva, Dmitry Kiktev, Anatoly Muraviev, Alexander Smirnov, Evgeny Vasilyev, Larisa Nikitina, Tatiana Bazlova, Nikolai Bocharnikov, Suleiman Mostmandy  
 Finnish Meteorological Institute, Helsinki, Finland  
 (pertti.nurmi@fmi.fi)

**17:15–17:30: EMS2015-150**

Verification of official operational forecasts for the Sochi Olympics

Anatoly Muraviev, **Dmitri Kiktev**, Tatiana Dmitrieva, Anastasia Bundel, Alexander Smirnov  
 Hydrometcentre of Russia/Roshydromet, Moscow

**17:30–17:45: EMS2015-576**

End-user focused verification of precipitation nowcast systems during the Sochi 2014 Winter Olympics

**Larisa Nikitina**, Suleiman Mostmandy, Pertti Nurmi  
 Aviamettelecom of Roshydromet, Russian Federation

**17:45–18:00: EMS2015-364**

Performance of deterministic numerical weather forecasts during the FROST-2014 project field campaign

**Anastasia Bundel**, Anatoly Muraviev, Pertti Nurmi, Dmitry Kiktev, Alexander Smirnov, Andrea Montani  
 Hydrometeorological Research Centre of Russia, Moscow, Russian Federation (a.bundel@gmail.com)

**18:00–18:15: EMS2015-155**

Verification of high impact weather forecasts in the region of Sochi-2014 Olympic Games

**Anatoly Muraviev**, Dmitri Kiktev, Anastasia Bundel  
 Hydrometcentre of Russia/Roshydromet, Moscow

**18:15–18:30: EMS2015-154**

On the spatial verification of FROST-2014 precipitation forecast fields

Anatoly Muraviev, **Anastasia Bundel**, Dmitri Kiktev, Nikolay Bocharnikov, Tatiana Bazlova  
 Hydrometcentre of Russia/Roshydromet, Moscow

**ORAL PROGRAMME ECAM3 CONTINUES FRIDAY**

## The Atmospheric System and its Interactions

### ASI16 Energy Meteorology

**Convener:** Sven-Erik Gryning

**Co-Conveners:** Ekaterina Batchvarova; Lucien Wald; Marion Schroedter-Homscheidt

**Lecture Room:** Sofia III

**14:00–16:00**

**Chairperson(s):** Sven-Erik Gryning

**14:00–14:15: EMS2015-127**

The full scale spectrum of the boundary layer wind  
Xiaoli Larsen, Søren E. Larsen, **Erik Lundtang Petersen**

**14:15–14:30: EMS2015-537**

Wind profile modelling using WAsP and 'tall' wind measurements  
**Rogier Floors**, Mark Kelly, Ib Troen, Alfredo Peña, Sven-Erik Gryning  
DTU, Wind Energy, Department of Wind Energy, Roskilde, Denmark (rofi@dtu.dk)

**14:30–14:45: EMS2015-572**

Producing an atlas of the wind at a height of 100 m  
Gertie Geertsema, Henk van den Brink, **Mark Savenije**

**14:45–15:00: EMS2015-348**

Large eddy simulation application with the mesoscale model RAMS for wind energy studies in complex terrain: a study of the Askervein hill  
Nicolas Barranger, Platon Patlakas, Christina Kalogeri, Christos Stathopoulos, **George Kallos**  
University of Athens, Greece (nbarranger@mg.uoa.gr)

**15:00–15:15: EMS2015-366**

On the influence of fetch on wind and stability conditions in the North and Baltic Sea  
**Martin Dörenkämper**, Gerald Steinfeld, Hauke Wurps, Detlev Heinemann  
Carl von Ossietzky University Oldenburg, Institute of Physics, ForWind - Center for Wind Energy Research, Oldenburg, Germany (martin.doerenskaemper@uni-oldenburg.de)

**15:15–15:30: EMS2015-329**

Investigation Of The Flow Over An Escarpment With Regard To Wind-Energy Research Using Small Remotely Piloted Aircraft  
**Alexander Rautenberg**, Norman Wildmann, Joe Smith, Jens Bange  
Center for Applied Geoscience, Eberhard Karls Universität Tübingen, Tübingen, Germany (alexander.rautenberg@uni-tuebingen.de)

**15:30–15:45: EMS2015-565**

Statistical methods to develop skillful probabilistic wind power forecasts  
**Lüder von Bremen**, Constantin Junk, Stephan Späth, Detlev Heinemann  
Universität Oldenburg, ForWind, Oldenburg, Germany (lueder.von.bremen@uni-oldenburg.de)

**15:45–16:00: EMS2015-22**

Climatology of low-level jets from reanalysis and observations

**Minttu Tuononen**, Victoria Sinclair, Timo Vihma, Ewan O'Connor, Ville Vakkari, Lauri Laakso  
Finnish Meteorological Institute, Helsinki, Finland (minttu.tuononen@fmi.fi)

**16:00 Coffee break**

**17:00–18:30**

**Chairperson(s):** Ekaterina Batchvarova

**17:00–17:15: EMS2015-100**

Wind and solar energy potential in Bulgaria - some computer simulations results  
**Georgi Georgiev**, Kostadin Ganey, Georgi Gadzhev, Nikolay Miloshev, Dimiter Syrakov, Maria Prodanova  
National Institute of Geophysics, Geodesy and Geography, Bulgarian Academy of Sciences, Sofia, Bulgaria (jordanov@gmail.com)

**17:15–17:30: EMS2015-621**

Dependence of Weibull distribution parameters on the CNR threshold in wind lidar data  
**Sven-Erik Gryning**, Ekaterina Batchvarova, Rogier Floors, Alfredo Peña  
DTU Wind Energy

**17:30–17:45: EMS2015-498**

Mesoscale wind fluctuations and their correlation with solar variability  
**Anna Mehrens**, Lueder von Bremen, Detlev Heinemann  
University of Oldenburg, Institute of Physics, ForWind, Oldenburg, Germany (anna.mehrens@forwind.de)

**17:45–18:00: EMS2015-351**

Handling of subpixel structures in the application of satellite derived irradiance data for solar energy system analysis - a review  
**Hans Georg Beyer**  
University of Agder, Inst. of Engineering, Department of Engineering and Science, Grimstad, Norway (hans-georg.beyer@uia.no)

**18:00–18:15: EMS2015-288**

Validation of CM SAF surface solar radiation datasets over Finland and Sweden  
Aku Riihela, Thomas Carlund, Joerg Trentmann, Richard Mueller, **Anders Lindfors**  
Finnish Meteorological Institute, Finland (anders.lindfors@fmi.fi)

**18:15–18:30: EMS2015-327**

Quantification of Solar Surface Radiation in the Alps  
**Jochen Wagner**, Reto Stöckli, Armin Costa, Roberto Monsorno, David Moser, Giorgio Belluardo, Georg Niedrist  
EURAC Research, Institute for Applied Remote Sensing, Bolzano, Italy

**ORAL PROGRAMME ASI16 CONTINUES FRIDAY**

## Climate

### Monitoring climate and climate change

### CL2 Spatial Climatology

**Convener:** Ole Einar Tveito

**Co-Conveners:** Mojca Dolinar; Christoph Frei

**Lecture Room:** Sofia II

**09:00–10:30**

**Chairperson(s):** Ole Einar Tveito

**09:00–09:15: EMS2015-625**

High resolution hourly gridded temperature dataset for Germany

**Stefan Krähenmann**, Andreas Walter

Deutscher Wetterdienst, Offenbach, Germany

**09:15–09:30: EMS2015-219**

Spatial interpolation of meteorological variables for snow and hydrological modelling

**Cristian Lussana**, Jess Andersen, Tuomo Saloranta, Thomas Skaugen, Ole Einar Tveito

Norwegian Meteorological Institute, Section for Data and Spatial Analysis, Oslo

**09:30–09:45: EMS2015-241**

Observed spatial and temporal variability of precipitation and drought in the Eastern Mediterranean

**Shifa Mathbout**, Joan Albert López Bustins, Javier Martin Vide

University of Barcelona, Physical Geography and Regional Geographical Analysis, Barcelona, Spain (shifamathbout@yahoo.com)

**09:45–10:00: EMS2015-501**

Radar-derived precipitation products for forecasting of floods, landslides and avalanches

**Cristian Lussana**, Christoffer A. Elo, Kolbjørn Engeland, Jean-Marie Lepioufle, Snorre Stavik Rønning, Ole Einar Tveito

Norwegian Meteorological Institute

**10:00–10:15: EMS2015-216**

Mapping extreme precipitation return levels in Switzerland

**Christoph Frei**, Anne Schindler, Sophie Fukutome

Federal Office of Meteorology and Climatology, MeteoSwiss, Zürich, Switzerland

(christoph.frei@meteoswiss.ch)

**10:15–10:30:**

Introduction to posters

**10:30 Coffee break**

**ORAL PROGRAMME CL2 CONTINUES AT 17:00**

**17:00–18:30**

**Chairperson(s):** Christoph Frei

**17:00–17:15: EMS2015-71**

Hourly precipitation extremes versus temperature in Europe

Peter Siegmund, **Gerard van der Schrier**

Royal Netherlands Meteorological Institute, De Bilt, Netherlands (siegmund@knmi.nl)

**17:15–17:30: EMS2015-632**

Meteo: package for automated spatio-temporal mapping

**Milan Kilibarda**, Branislav Bajat, Aleksabder Sekulic

University of Belgrade, Faculty of Civil Engineering, Department of Geodesy and Geoinformatics, Belgrade, Serbia

**17:30–17:45: EMS2015-226**

Determining the accuracy of gridded daily rainfall amounts

**Timothy Legg**

Met Office, Climate Research, Exeter, United Kingdom (tim.legg@metoffice.gov.uk)

**17:45–18:00: EMS2015-61**

Long-term consistent grid data for temperature in Switzerland

**Francesco Isotta**, Michael Begert, Christoph Frei

MeteoSwiss, Federal Office of Meteorology and Climatology MeteoSwiss, Zurich-Airport, Switzerland (francesco.isotta@meteoswiss.ch)

**18:00–18:15: EMS2015-402**

Thermal conditions and oscillation patterns in the region of Central Europe in years 1918-2010

**Zbigniew Szwejkowski**, Ewa Draganska, Iwona Cymes, Stanislaw Suchecki

Warmia and Mazury University in Olsztyn, Poland

**18:15–18:30: EMS2015-611**

Long-term gridded temperature data for Norway

**Ole Einar Tveito**, Hanna Szewczyk-Bartnicka

Norwegian Meteorological Institute, Climatology Division, Oslo, Norway (ole.einar.tveito@met.no)

**END OF ORAL PROGRAMME CL2**

## Understanding processes and climate change

### CL6 Global and regional reanalyses

**Convener:** A. K. Kaiser-Weiss

**Co-Conveners:** Eric Bazile; Leopold Haimberger; Ge Verver; Dick Dee

**Lecture Room:** Sofia II

**14:00–16:00**

**14:00–14:30: EMS2015-627**

Progress in climate reanalysis (solicited)

**Dick Dee**

ECMWF, Reading, UK

**14:30–14:45: EMS2015-142**

Development of the regional UERRA reanalysis systems and the output validation

Per Uden, Manola Brunet, Dale Barker, Andrea

Kaiser-Weiss, Albert Klein Tank, **Phil Jones**

Climatic Research Unit, School of Environmental Sciences, University of East Anglia (UEA), Norwich, UK

**14:45–15:00: EMS2015-48**

The Met Office Ensemble of Regional Reanalyses

**Peter Jermey**

UK Met Office, Data Assimilation and Ensembles,

Exeter, United Kingdom

(peter.jermey@metoffice.gov.uk)

**15:00–15:15: EMS2015-118**

Added value of a new high-resolution ensemble nudging reanalysis system

**Lilo Bach**, Christoph Schraff, Jan Keller, Andreas Hense

University of Bonn, Germany (libach@uni-bonn.de)

**15:15–15:30: EMS2015-206**

Uncertainties in the surface variables from an ensemble of reanalyses under UERRA project

**Cornel Soci**, Eric Bazile

Météo-France, CNRM/GMAP, Toulouse, France

(cornel.soci@meteo.fr)

**15:30–15:45: EMS2015-374**

Using reanalysis fields of 10m winds and 2m temperature to characterize the representativeness of German station observations

**Andrea K. Kaiser-Weiss**, Vera Heene, Michael Borsche, Frank Kaspar

DWD, National climate monitoring, Offenbach, Germany (andrea.kaiser-weiss@dwd.de)

**15:45–16:00: EMS2015-434**

High-resolution regional reanalysis for Europe and Germany: Evaluation and Applications

**Sabrina Wahl**, Jan Keller, Christian Ohlwein, Andreas Hense, Petra Friederichs, Susanne Crewell

University of Bonn, Meteorological Institute, Bonn, Germany (wahl@uni-bonn.de), Hans-Ertel Centre for Weather Research - Climate Monitoring Branch

## Research and services for socio-economic sectors

### CL10 The Copernicus Climate Change Service implemented by ECMWF

**Conveners:** J.-N. Thepaut; Dick Dee

**Lecture Room:** Sofia II

**11:00–13:00**

**Chairperson(s):** Jean-Noel Thepaut

**11:00–11:15: EMS2015-328**

The Copernicus Programme and Climate Change (solicited)

Mauro Facchini, **Hugo Zunker**, Bernard Pinty

European Commission

**11:15–11:30: EMS2015-377**

How to incorporate expert and empirical knowledge to C3S?

**Ernesto Rodriguez-Camino**

AEMET, Spain (erodriguezc@aemet.es)

**11:30–11:45: EMS2015-322**

The regional reanalysis activities in UERRA to support Copernicus climate change services

**Per Uden**, Manola Brunet, Dale Barker, Andrea

Kaiser-Weiss, Albert Klein Tank, Phil Jones

Swedish Meteorological and Hydrological Institute

(SMHI), Norrköping, Sweden

**11:45–12:00: EMS2015-603**

Use of a large ensemble of regional climate model simulations to depict future climate change in Sweden

**Erik Kjellström**, Lars Bärring, Grigory Nikulin, Gustav Strandberg, Renate Wilcke

Swedish Meteorological and Hydrological Institute,

Rosby Centre, Norrköping, Sweden

(erik.kjellstrom@smhi.se), Stockholm University,

Department of Meteorology

**12:00–12:15: EMS2015-595**

Added value of regional climate modeling over areas characterized by complex terrain- Precipitation over the Alps

Csaba Torma, Filippo Giorgi, **Erika Coppola**

The Abdus Salam International Centre for Theoretical

Physics, Earth System Physics Section, Trieste, Italy

(coppolae@ictp.it)

**12:15–12:30: EMS2015-193**

Addressing global demands of water, energy and food with satellite based soil moisture data in a changing climate

**Eva Maria Haas**, Christian Briese, Wolfgang Wagner,

Wouter Dorigo, Werner Mücke, Richard Kidd, Andreas

Walli, Annett Bartsch, Stefan Schneider

GeoVille, Austria (haas@geoville.com)

**12:30–12:45: EMS2015-438**

Information system for adaptation to climate change in Hungary

**Gabriella Szépszó**, Judit Bartholy, Zita Bihari, Attila Kovács, Ákos Németh, Rita Pongrácz  
Hungarian Meteorological Service, Budapest, Hungary  
(szepszo.g@met.hu)

**12:45–13:00: EMS2015-564**

Potential use of climate information for mitigation and adaptation of the energy sector

**Robert Vautard**

Laboratoire des Sciences du Climat et de l'Environnement, CEA/CNRS/UVSQ, Institut Pierre-Simon Laplace, Gif sur Yvette, France  
(robert.vautard@lsce.ipsl.fr)

**END OF ORAL PROGRAMME CL10**

## Communication and Education

### CE1 Media and Communication

**Convener:** Tanja Cegnar  
**Lecture Room:** Vitosha

**09:00–10:30**

**Chairperson(s):** Cegnar

**09:00–09:15:**

EMS TV Weather Forecast Award  
**Martín Barreiro**

**09:15–09:30: EMS2015-628**

Considerations when broadcasting severe weather information on television  
**Jay Trobec**  
KELO TV

**09:30–09:45: EMS2015-578**

Weather forecasting and visualization strategy: the example of "www.meteo.gr"  
Vassiliki Kotroni, **Konstantinos Lagouvardos**  
National Observatory of Athens, Institute of Environmental Research and Sustainable Development, Athens, Greece (kotroni@meteo.noa.gr)

**09:45–10:00: EMS2015-43**

User behavior analysis of online meteorological services  
**Atte Harjanne**, Tiina Ervasti  
Finnish Meteorological Institute, Helsinki, Finland, Aalto University School of Business, Department of Management Studies, Helsinki, Finland

**10:00–10:15: EMS2015-528**

An overview of the use of Twitter from weather presenters around the world  
Tomas Molina, Enric Agud Pigue, **Panagiotis Giannopoulos**, Montserrat Cañas  
Hellenic Nat. Met. Service, Greece  
(pgiannop1@yahoo.com)

**10:15–10:30: EMS2015-615**

Emergencies in the age of social media  
**Dario Giaiotti**, Fulvio Stel  
Regional Agency for the Environmental Protection of Friuli Venezia Giulia, Regional Center for Environmental Modeling, Palmanova, Italy (fulvio.stel@arpa.fvg.it),  
Unione Meteorologica del Friuli Venezia Giulia, via S. Pellico 19, Cividale del Friuli, Italy

**10:30 Coffee break**

**11:00–13:00**

**Chairperson(s):** Cegnar

**11:00–11:15: EMS2015-274**

Seasonal forecasting at the Bulgarian weather service: quantifying and communicating uncertainty  
**Ilian Gospodinov**  
National Institute of Meteorology and Hydrology, Bulgaria (ilian.gospodinov@meteo.bg)

**11:15–11:45: EMS2015-630**

Role of communication in service delivery  
**Gerald Fleming**

**11:45–12:00: EMS2015-349**

Halo; Met Norway's weather service for the public sector  
Solfrid Agersten, **Ine-Therese Pedersen**, Berit Hagen, Håkon Mjelstad  
Norwegian Meteorological Institute, Metklim, Tromsø, Norway (inetsp@met.no)

**12:00–12:15: EMS2015-350**

How we got comedians to talk about the climate  
**Hans Olav Hygen**, Kamilla Pedersen, Rasmus Benestad, Bente Wahl  
Norwegian Meteorological Institute, Oslo, Norway  
(hans.olav.hygen@met.no)

**12:15–12:30:**

EMS Outreach & Communication Award  
**Pierrette Thomet Stott**

**12:30–12:40:**

EMS Outreach & Communication examples of good practice

**12:40–12:50:**

EMS Journalist Award  
**Stéphane Foucart**

**12:50–13:00:**

Poster introduction

**END OF ORAL PROGRAMME CE1**

## Measurements and Observations

### OBS1/ASI8 Atmospheric measurements from the local to the regional scale: Concepts, new technologies and scientific progress

**Convener:** Frank Beyrich  
**Co-Convener:** Fred C. Bosveld  
**Lecture Room:** Sofia III

**09:00–10:30**

**Chairperson(s):** N.N.

#### Wind, Rain, and Fog with New Technologies

**09:00–09:15: EMS2015-107**

An overview of operational AMV products extracted at EUMETSAT  
**Regis Borde**, Olivier Hautecoeur, Manuel Carranza  
 EUMETSAT, Darmstadt, Germany  
 (regis.borde@eumetsat.int)

**09:15–09:30: EMS2015-305**

Wind measurements with smart-phones in the Atmospheric Boundary Layer  
**Cisco de Bruijn**, Siebren de Haan, Werner Dierssen, Jonatan Leloux, Fred Bosveld  
 Royal Netherlands Meteorological Institute (KNMI), Observations and Data Technology, De Bilt, Netherlands (cisco.de.bruijn@knmi.nl)

**09:30–09:45: EMS2015-421**

Improving 2D-Video-Distrometer Performance Characteristics for High Data Rate and Heavy Weather Events  
**Martin Schwinzerl**, Günter Lammer, Michael Schönhuber  
 JOANNEUM RESEARCH Forschungsges mbH, DIGITAL, Graz, Austria  
 (martin.schwinzerl@joanneum.at)

**09:45–10:00: EMS2015-158**

Errors in rainfall measurement using cellular communication networks  
**Aart Overeem**, Hidde Leijnse, Remko Uijlenhoet  
 Wageningen University, Hydrology and Quantitative Water Management Group, Wageningen, Netherlands (aart.overeem@wur.nl), Royal Netherlands Meteorological Institute, De Bilt, Netherlands

**10:00–10:15: EMS2015-344**

Cellular network infrastructure- the future of fog monitoring?  
**Pinhas Alpert**, Noam David, Omri Sendik, Hagit Messer  
 Tel-Aviv University, Geosciences, Tel-Aviv, Israel (pinhas@post.tau.ac.il)

**10:15–10:30: EMS2015-163**

METEO-Cert: MeteoSwiss acceptance procedure for automatic weather stations  
**Joël Fisler**, Marlen Kube, Bertrand Calpini  
 MeteoSchweiz, Zurich, Switzerland  
 (joel.fisler@meteoswiss.ch)

**10:30 Coffee break**

**11:00–13:00**

**Chairperson(s):** F. Bosveld

**Fluxes**

**11:00–11:30: EMS2015-271**

Estimating long-term trends in actual evapotranspiration with help of lysimeter data (solicited)  
**Harrie-Jan Hendricks Franssen**, Anne-Katrin Röseler, Thomas Pütz, Harry Vereecken  
 Forschungszentrum Jülich GmbH, Agrosphere (IBG-3), Jülich, Germany (h.hendricks-franssen@fz-juelich.de)

**11:30–11:45: EMS2015-368**

Flux-Gradient Technique with Ammer Valley Surface Layer Measurement Network  
**Francesca d'Amico**, Joe Smith  
 University of Tuebingen, Germany

**11:45–12:00: EMS2015-494**

Measurements of Mass and Energy Exchange using Aircraft-based Sensors  
**Raymond Desjardins**, Devon Worth, Matthias Mauder, Stefan Metzger, Ian MacPherson, Ramesh Srinivasan  
 Agriculture and Agri-Food Canada, Research Branch, Ottawa, Canada (ray.desjardins@agr.gc.ca)

**12:00–12:15: EMS2015-553**

Radiation and boundary layer measurements during the partial solar eclipse on March 20, 2015 at Lindenberg, Germany  
**Frank Beyrich**, Claudia Becker, Klaus Behrens, Lionel Doppler, Carmen Köhler, Udo Rummel  
 Deutscher Wetterdienst, Meteorologisches Observatorium Lindenberg, Tauche - OT Lindenberg, Germany (frank.beyrich@dwd.de)

**12:15–12:30: EMS2015-41**

How lakes influence the local atmospheric circulation (Young Scientist Award Lecture)  
**Miguel Potes**, Rui Salgado, Maria João Costa  
 Instituto de Ciências da Terra (mpotes@uevora.pt)

**12:30–12:45: EMS2015-295**

Investigation of the atmospheric boundary layer in the Laptev Sea area by means of ground-based remote sensing techniques and regional climate simulations  
 Pascal Schwarz, **Clemens Drüe**, Heinemann Günther, Gutjahr Oliver, Makshtas Alexander  
 University of Trier, Environmental Meteorology, Germany (schwarzp@uni-trier.de)

**12:45–13:00:**

Poster Introduction

## Numerical Weather Prediction

### NWP2 Numerical aspects and physical parametrization integration in NWP models

**Convener:** Daniel Reinert  
**Co-Convener:** Guy de Morsier  
**Lecture Room:** Kyoto

**09:00–10:30**

**Chairperson(s):** Daniel Reinert

**09:00–09:15: Introduction to Posters I**

**09:15–09:30: EMS2015-164**

Development of a next generation global model in Korea Institute of Atmospheric Prediction Systems  
**Young Kwon**  
 Korea Institute of Atmospheric Prediction Systems

**09:30–09:45: EMS2015-50**

Impact of small-scale orographic gravity wave drag in the stable boundary layer on cyclone filling in a three-dimensional NWP model

**Gert-Jan Steeneveld**, Michal Kleczek, Liduin Burgering  
 Wageningen University, Meteorology and Air Quality Section, Wageningen, Netherlands  
 (gert-jan.steeneveld@wur.nl)

**09:45–10:00: EMS2015-355**

Implementation of the Bessel's method for solar eclipses prediction within the WRF-ARW model  
**Alex Montornès**, Bernat Codina, John Zack  
 Department of Astronomy and Meteorology, University of Barcelona, Barcelona, Spain  
 (amontornes@am.ub.es)

**10:00–10:15: EMS2015-37 (YSTA)**

Impact of Land-Use Types and Urban Canopy Structure on Urban Heat Island via High Resolution WRF Modeling: Istanbul Case Study

**Yasar Burak Oztaner**, Luca Pozzoli, Amir Hakami, Tayfun Kindap, Alper Unal  
 Eurasia Institute of Earth Science, Climate and Marine Science, Istanbul Technical University, Istanbul, Turkey  
 (oztaner@itu.edu.tr,pozzoli.ist@gmail.com,kindap@itu.edu.tr,alper.unal@gmail.com)

**10:15–10:30:**

Introduction to Posters II and final discussion

**END OF ORAL PROGRAMME NWP2**

### NWP3 Data assimilation and use of observations in meteorology and oceanography

**Convener:** Alexander Cress  
**Co-Convener:** Sarah Dance  
**Lecture Room:** Vitosha

**17:00–18:30**

**Chairperson(s):** A. Cress/ S L. Dance

**17:00–17:15: EMS2015-115**

Data assimilation using convective scale covariance structures

**Clarissa Figura**, Liselotte Bach, Jan D. Keller, Andreas Hense  
 Meteorological Institute, University of Bonn, Germany

**17:15–17:30: EMS2015-317**

Assimilation of MODE-S EHS observations in HARMONIE

**Cisco de Bruijn**, Siebren de Haan  
 Royal Netherlands Meteorological Institute (KNMI), Observations and Data Technology, De Bilt, Netherlands (cisco.de.bruijn@knmi.nl)

**17:30–17:45: EMS2015-540**

Diagnosing observation error statistics for numerical weather prediction

Joanne A. Waller, **Sarah L. Dance**, Nancy K. Nichols  
 University of Reading, School of Mathematical and Physical Sciences, Reading, United Kingdom  
 (s.l.dance@reading.ac.uk)

**17:45–18:00: EMS2015-179**

Biomass and Soil Moisture simulation and assimilation over Hungary

**Helga Tóth**, Balázs Szintai, László Kullmann  
 Hungarian Meteorological Service, Hungary  
 (toth.h@met.hu)

**18:00–18:15: EMS2015-9**

Improving road weather model forecasts by adjusting the radiation input

**Virve Karsisto**  
 Finnish Meteorological Institute, Helsinki, Finland  
 (virve.karsisto@fmi.fi)

**18:15–18:30:**

Introduction to Posters

**END OF ORAL PROGRAMME NWP3**



## NWP4 Probabilistic and ensemble forecasting at short and medium-range

**Convener:** Andrea Montani

**Co-Conveners:** Jan Barkmeijer; Fernando Prates

**Lecture Room:** Kyoto

**11:00–12:55**

**Chairperson(s):** Prates/Montani

### From large scale to convection permitting ensemble systems

**11:00–11:15: EMS2015-224**

Stochastic parametrization of boundary layer processes in ENS

**Pirkka Ollinaho**, Martin Leutbecher, Anton Beljaars, Irina Sandu

European Centre for Medium-Range Weather Forecasts (pirkka.ollinaho@ecmwf.int)

**11:15–11:30: EMS2015-108**

Limited-area ensemble forecasts during Sochi-2014 Winter Olympics: multi-model vs single-model approach

**Andrea Montani**, Chiara Marsigli, Tiziana Paccagnella  
ARPA-SIMC, HydroMeteoClimate Service of Emilia-Romagna Region, Bologna, Italy  
(amontani@arpa.emr.it)

**11:30–11:45: EMS2015-549**

New methods for ensemble generation in COSMO-DE-EPS?

**Richard Keane**, Hendrick Reich, Christoph Schraff  
DWD, Germany (richard.keane@dwd.de)

**11:45–12:00: EMS2015-116**

Evaluation of a stochastic deep convection parameterization in HarmonEPS

**Lisa Bengtsson**  
SMHI, Norrköping, Sweden (Lisa.Bengtsson@smhi.se)

**12:00–12:15: EMS2015-582**

How good is ensemble-based calibrated thunderstorm probability prediction over Australia?

**Harald Richter**  
Research & Development Branch, Bureau of Meteorology, Australia (h.richter@bom.gov.au)

## Applications of probabilistic products

**12:15–12:30: EMS2015-12**

Probabilistic Predictions in Complex Terrain with an Analog Ensemble

**Iris Odak Plenkovic**, Luca Delle Monache, Kristian Horvath, Mario Hrastinski, Alica Bajic  
Meteorological and Hydrological Service, Zagreb, Croatia

**12:30–12:45: EMS2015-302**

Scenario forecasting using ensembles in water management

**Tessa van het Schip-Haverkamp**, Wim van den Berg, Remco van de Beek  
MeteoGroup The Netherlands, Wageningen, Netherlands (t.vanhetschip@meteogroup.com)

**12:45–12:55:**

Poster presentations

**END OF ORAL PROGRAMME NWP4**

## The Atmospheric System and its Interactions

### ASI16 Energy Meteorology

**Convener:** Sven-Erik Gryning

**Co-Conveners:** Ekaterina Batchvarova, Lucien Wald, Marion Schroedter-Homscheidt

**Poster Area:** Sofia I

**Chairperson(s):** Sven-Erik Gryning

**Introduction Part I:** 16:00, Sofia III

**Attendance Time:** 16:15–17:00

#### P26: EMS2015-409

Full-scale wind lidar measurements of the shelter behind a fence

**Alfredo Peña**, Andreas Bechmann, Davide Conti, Nikolas Angelou, Torben Mikkelsen, Peggy Friis DTU, Wind Energy, Wind Energy, Roskilde, Denmark (aldi@dtu.dk)

#### P27: EMS2015-521

Studying non frequent wind events for energy applications

Platon Patlakas, **Nicolas Barranger**, Dimitris Diamantis, George Galanis, George Kallos University of Athens, Department of Physics, Greece

#### P28: EMS2015-504

Statistical analysis of coastal wind profiles - a parallel between Ahtopol at the Black Sea and Lamezia Terme at the Tyrrhenian Sea

**Damyan Barantiev**, Daniel Gulli, Luca Tiriolo, Elenio Avolio, Ekaterina Batchvarova, Claudia Roberta Calidonna, Teresa Lo Feudo, Anna Maria Sempreviva, Mikhail Novitsky National Institute of Meteorology and Hydrology, Sofia, Bulgaria

#### P29: EMS2015-499

Wettermast Hamburg: Applying Mixing Length Models at a Heterogeneous Location

**Heike Konow**, Felix Ament, Ingo Lange Hamburg University, Meteorological Institute, Germany (heike.konow@uni-hamburg.de)

#### P30: EMS2015-101

On some characteristics of the spatial distribution of turbulence components over the Bolund hill determined in wind tunnel compared to full-scale measurements Alvaro Cuerva-Tejero, **Cristóbal José Gallego-Castillo**, Oscar Lopez-Garcia, Tee Seong Yeow, Sergio Ávila-Sánchez

DAVE-Universidad Politécnica de Madrid, Spain (alvaro.cuerva@upm.es)

#### P31: EMS2015-18

Estimation of wind power resources in complex terrain prone to bora and scirocco flows

**Mario Hrastinski**, Kristian Horvath, Alica Bajic, Iris Odak Croatian Meteorological and Hydrological Service, Atmospheric research and forecast models development department, Zagreb, Croatia (mario.hrastinski@cirus.dhz.hr)

#### P32: EMS2015-509

How do regional reanalyses contribute to renewable energy applications?

**Christopher Frank**, Susanne Crewell, Jan Keller, Christian Ohlwein Climate Monitoring Branch, Hans-Ertel-Centre for Weather Research, Germany, Institute for Geophysics and Meteorology, University of Cologne, Germany

#### P33: EMS2015-435

Improvement of Solar and Wind forecasting in southern Italy through a multi-model approach

**Elenio Avolio**, Rosa Claudia Torcasio, Teresa Lo Feudo, Claudia Roberta Calidonna, Daniele Contini, Stefano Federico ISAC-CNR, UOS of Lamezia Terme, Italy (e.avolio@isac.cnr.it)

#### P34: EMS2015-297

Renewable energy production forecasts within the ORKA project

**Regina Kohlhepp**, Jonas von Schumann, Michael Buchhold Deutscher Wetterdienst (DWD), Offenbach am Main, Germany (Regina.Kohlhepp@dwd.de)

#### P35: EMS2015-199

Forecast of renewable energy with consideration of wind farm power curve and the broken cloud effect with PV

**Armin Raabe**, Robby Göhler, Janek Zimmer Universität Leipzig, Institut für Meteorologie, Leipzig, Germany (raabe@uni-leipzig.de)

#### P36: EMS2015-93

Solar and wind variability and complementarity in the Iberian Peninsula using clustering techniques

**Claudia Gutiérrez Escribano**, Miguel Ángel Gaertner Ruiz-Valdepeñas, Clemente Gallardo Andrés, Victoria Gil Alfonso University of Castilla-La Mancha, Environmental Sciences Institute, Toledo, Spain (Claudia.Gutierrez@uclm.es)

### END OF POSTER PROGRAMME ASI16 – PART I

## Climate

### Monitoring climate and climate change

#### CL2 Spatial Climatology

**Convener:** Ole Einar Tveito

**Co-Conveners:** Mojca Dolinar, Christoph Frei

**Poster Area:** Sofia I

**Chairperson(s):** Ole Einar Tveito

**Introduction:** 10:15, Sofia II

**Attendance Time:** 16:15–17:00

**P48: EMS2015-387**

Spatio-temporal interpolation of sub-daily (6-hour) precipitation over Romania for the period 1975-2010  
**Alexandru Dumitrescu**, Marius-Victor Birsan, Ancuta Manea

National Meteorological Administration, Bucharest, Romania (dumitrescu@meteoromania.ro)

**P49: EMS2015-591**

Spatial covariance functions for the combination of in-situ temperature observations and surface temperature fields from numerical models

**Cristian Lussana**, Ole Einar Tveito, Luca Cantarello  
Norwegian Meteorological Institute, Meteorology and Climate Department - Division for Climate Services - Section for Data and Spatial Analysis, Oslo, Norway (cristianl@met.no)

**P50: EMS2015-425**

Spatial relationships of the monthly, daily and subdaily wind speed and maximum wind gust

**Pavel Zahradníček**, Petr Stepánek, Radim Tolasz, Jirí Hostýnek  
Global Change Research Centre AS, v.v.i., Brno, Brno, Czech Republic (zahradnicek@chmi.cz), Czech Hydrometeorological Institute, Czech Republic

**P51: EMS2015-597**

Spatio-temporal analysis of the annual maximum multi-day precipitation amounts in Croatia

**Irena Nimac**, Ksenija Cindric Kalin, Melita Percec-Tadic  
Meteorological and hydrological service of Croatia, Croatia (irena.nimac@cirus.dhz.hr)

**END OF POSTER PROGRAMME CL2**

### Understanding processes and climate change

#### CL6 Global and regional reanalyses

**Convener:** A. K. Kaiser-Weiss

**Co-Conveners:** Eric Bazile, Leopold Haimberger, Ge Verver, Dick Dee

**Poster Area:** Sofia I

**Introduction:** 16:00, Sofia II

**Attendance Time:** 16:15–17:00

**P52: EMS2015-331**

Estimating seasonal to inter-annual variability of 10m and 100m monthly wind speed from station measurements and global and regional reanalyses over Germany

**Michael Borsche**, Andrea Kaiser-Weiss, Frank Kaspar  
Deutscher Wetterdienst, Offenbach, Germany (michael.borsche@dwd.de)

**P53: EMS2015-496**

Investigating the trends of the Hadley Circulation in ERA20C

**Roberta D'Agostino**, **Piero Lionello**  
University of Salento, DISTEBA, Lecce, Italy (piero.lionello@unisalento.it), CMCC, Lecce, Italy

**P54: EMS2015-171**

Extratropical Factors Affecting the summer precipitation variability over the Yangtze River Basin in China

**Xinyu Li**, Riyu Lu  
State Key Laboratory of Numerical Modeling for Atmospheric Sciences and Geophysical Fluid Dynamics, Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, China, University of the Chinese Academy of Sciences, Beijing, China

**P55: EMS2015-120**

Statistically derived upper-air pseudo-temperatures for assimilation in reanalyses

**Lilo Bach**, Jan Keller, Christoph Schraff, Andreas Hense  
University of Bonn, Germany (libach@gmx.de)

**END OF POSTER PROGRAMME CL6**

## Research and services for socio-economic sectors

### CL10 The Copernicus Climate Change Service implemented by ECMWF

**Conveners:** J.-N. Thepaut, Dick Dee

**Poster Area:** Sofia I

**Chairperson(s):** Jean-Noel Thepaut

**Introduction:** 16:00, Sofia II

**Attendance Time:** 16:15–17:00

#### P58: EMS2015-426

Homogenized, gridded observations for better climate change services - summary of the CARPATCLIM project

**Monika Lakatos**, Zita Bihari, Tamás Szentimrey, Tamás Kovács, Sándor Szalai, Ákos Németh  
Hungarian Meteorological Service, Climate Division, Budapest, Hungary (lakatos.m@met.hu)

#### P59: EMS2015-601

Producing, handling and disseminating information on regional climate change at the Swedish Meteorological and Hydrological Institute: Experiences from CORDEX  
**Erik Kjellström**, Lars Barring, Michael Kolax, Grigory Nikulin

Swedish Meteorological and Hydrological Institute, Rossby Centre, Norrköping, Sweden  
(erik.kjellstrom@smhi.se)

#### P60: EMS2015-604

Climate-proofing forest production in Scandinavia  
**Lars Barring**, Renate Wilcke, Mats Berlin, Bengt Andersson Gull, Erik Kjellström

Rosby Centre, Swedish Meteorological and Hydrological Institute, Sweden (lars.barring@smhi.se), Centre for Environmental and Climate Research, Lund University, Sweden

#### P61: EMS2015-375

Proposals of metrics for a more physical evaluation of climate models

**Ernesto Rodriguez-Camino**, María J. Casado, Asuncion Pastor, M. Carmen Sanchez de Cos, Jose M. Sánchez-Laulhe, Carlos Jiménez, Petra Ramos  
AEMET, Spain

**END OF POSTER PROGRAMME CL10**

## Communication and Education

### CE1 Media and Communication

**Convener:** Tanja Cegnar

**Poster Area:** Sofia I

**Chairperson(s):** Tanja Cegnar

**Introduction:** 12:50, Vitosha

**Attendance Time:** 16:15–17:00

**P62: EMS2015-453**

An overview of the use of Facebook in National Weather Services

Virginia Palacio, Olatz Principe, Maialen Martija,

**Santiago Gaztelumendi**

Basque Meteorology Agency (EUSKALMET), TECNALIA R&I, Energy and Environment Division, Meteorology Area

**P63: EMS2015-128**

An analysis of meteorological factors affecting user satisfaction

**In-Gyum Kim**, Hye-Min Kim, Ki-Jun Park, Jeong-Yun Kim, Cheol-Hong Park

National Institute of Meteorological Research, Seogwipo-si, Jeju-do, Republic of Korea (kimig@korea.kr)

**END OF POSTER PROGRAMME CE1**

## Measurements and Observations

### OBS1/ASI8 Atmospheric measurements from the local to the regional scale: Concepts, new technologies and scientific progress

**Convener:** Frank Beyrich  
**Co-Convener:** Fred C. Bosveld  
**Poster Area:** Sofia I  
**Chairperson(s):** N.N.  
**Introduction:** 12:45, Sofia III  
**Attendance Time:** 16:15–17:00

#### P64: EMS2015-222

The wind profile within the surface boundary layer measured by in situ (anemometric tower) and remotesensing (mini-sodar) techniques

**Gilberto Fisch**

Aeronautic and Space Institute, Atmospheric Science Division, São José dos Campos, Brazil  
 (fisch.gilberto@gmail.com)

#### P65: EMS2015-334

A new method to improve the analyzed meteorological observations with the use of high-resolution remote sensing data

**Antonio Daniel Sanchis-Dufau**

University of Vienna, Institute of Meteorology and Geophysics, General Meteorology and Climatology, Vienna, Austria (antonio.sanchis-dufau@univie.ac.at)

#### P66: EMS2015-29

Hail detection algorithm derived from weather radar products

**Nicu Barbu**, Sabina Stefan, Cristian Craciun

University of Bucharest, Faculty of Physics, Magurele, Bucharest, Romania, National Meteorological Administration, Bucharest, Romania

#### P67: EMS2015-361

Global solar radiation: comparison of satellite and ground based observations on monthly time scale

**Petr Skalak**, Piotr Struzik, Pavel Zahradnicek, Ales Farda

Czech Hydrometeorological Institute, Department of Climatology, Praha, Czech Republic (skalak@chmi.cz), Global Change Research Centre AS CR, Brno, Czech Republic

#### P68: EMS2015-548

Upward and downward thermal infrared radiation determined by orbital data in Amazonia

**Gabriel de Oliveira**, Elisabete Caria Moraes, Yosio Edemir Shimabukuro, Nathaniel Brunzell, Luiz Eduardo Oliveira e Cruz de Aragao, Gabriel Bertani, Thiago Veloso dos Santos

National Institute for Space Research, Remote Sensing Division, Sao Jose dos Campos, SP, Brazil  
 (gdo@dsr.inpe.br; bete@dsr.inpe.br; yosio@dsr.inpe.br; laragao@dsr.inpe.br; gabrielb@dsr.inpe.br), University of Kansas, Department of Geography, Lawrence, KS, USA  
 (brunzell@ku.edu)

#### P69: EMS2015-367

Cloud cover estimation optical package: new facility, new algorithms, enhanced accuracy and new challenges.

**Mikhail Krinitskiy**, Alexey Sinitsyn

P.P.Shirshov Institute of Oceanology of the RAS, Sea Atmosphere Interaction And Climate Laboratory, Moscow, Russian Federation (krinitsky@sail.msk.ru)

#### P70: EMS2015-614

Climate reference stations in Germany: Concept, status and conclusions from parallel measurements

**Frank Kaspar**, Klaus-Jürgen Schreiber, Olaf Schulze

Deutscher Wetterdienst, Offenbach, Germany  
 (frank.kaspar@dwd.de)

#### P71: EMS2015-422

Improved estimates of sensible heat flux by a large aperture scintillometer with the use of real-time Bowen ratio

**Jung-Hoon Chae**, Moon-Soo Park, Min-Hyeok Choi, Yunyoung Song

Weather Information Service Engine, Seoul, Korea  
 (zhzhah79@gmail.com)

#### P72: EMS2015-483

Evaporation Observations at CESAR: Experience with Mini Lysimeters

**Fred C. Bosveld**, Bernard Voortman, Jan A. Elbers

KNMI, De Bilt, Netherlands (Fred.Bosveld@knmi.nl)

#### P73: EMS2015-418

Surface Energy Balance at an Urban Residential Area in Seoul, Korea

**Minsoo Kang**, Moon-Soo Park, Min-Hyeok Choi, Sung-Hwa Park

Weather Information Service Engine, Seoul, Republic of Korea (kangms8993@gmail.com)

#### P74: EMS2015-47

Evaluating the relationship between forest degradation, recovery, and conservation efforts with Landsat imagery in southeastern Brazil

**Megan Ewert**

Czech Republic (megan.ewert@natur.cuni.cz)

**END OF POSTER PROGRAMME OBS1/ASI8**

## Numerical Weather Prediction

### NWP2 Numerical aspects and physical parametrization integration in NWP models

**Convener:** Daniel Reinert

**Co-Convener:** Guy de Morsier

**Poster Area:** Sofia I

**Chairperson(s):** Daniel Reinert

**Attendance Time:** 16:15–17:00

#### Introduction to Posters I, 09:00, Kyoto

##### P75: EMS2015-209

Numerical simulations of the super cell formed over Western Bulgaria on 08th of July 2014

**Boryana Tsenova**, Andrey Bogatchev  
National Institute of Meteorology and Hydrology,  
Bulgarian Academy of Sciences, Sofia, Bulgaria  
(boryana.tsenova@meteo.bg)

##### P76: EMS2015-46 (YSTA)

Numerical study on parameterized and explicit cumulus convection resulted precipitation dependence on initial soil moisture content at 5 km horizontal resolution

**Hajnalka Breuer**, Júlia Göndöcs  
Eötvös Loránd University, Department of Meteorology,  
Budapest, Hungary (bhajni@nimbus.elte.hu)

##### P77: EMS2015-166

A sensitivity study on the diurnal variation of simulated precipitation to cumulus parameterization schemes

**In-Jin Choi**, Emilia Kyung Jin, Ji-Young Han, So-Young Kim, Young-Cheol Kwon  
Korea Institute of Atmospheric Prediction Systems (KIAPS), Seoul, Republic of Korea

##### P78: EMS2015-558

Evaluation of a new autoconversion parameter in a cumulus parameterization scheme

**Ji-Young Han**, Song-You Hong  
Korea Institute of Atmospheric Prediction Systems,  
Seoul, Republic of Korea (jy.han@kiaps.org)

#### Introduction to Posters II, 10:15, Kyoto

##### P79: EMS2015-313

Urbanization Effect on Meteorological Parameters for Istanbul

**Deniz Hazel Diren**, Hüseyin Toros  
Istanbul Technical University, Istanbul, Turkey  
(dirend@itu.edu.tr)

##### P80: EMS2015-167

Representation of surface subgrid heterogeneity in ICON using tiles - Impact on forecast quality

**Daniel Reinert**, Günther Zängl, Jürgen Helmert,  
Ekaterina Machulskaya  
German Weather Service, FE1, Offenbach am Main,  
Germany (daniel.reinert@dwd.de)

##### P81: EMS2015-106

Impacts of a prognostic large scale cloud scheme on a global forecasting system

**Rae-Seol Park**, Song-You Hong  
Korea Institute of Atmospheric Prediction Systems,  
Seoul, Republic of Korea

#### END OF POSTER PROGRAMME NWP2

### NWP3 Data assimilation and use of observations in meteorology and oceanography

**Convener:** Alexander Cress

**Co-Convener:** Sarah Dance

**Poster Area:** Sofia I

**Introduction:** 18:15, Vitospha

**Attendance Time:** 16:15–17:00

##### P82: EMS2015-412

Wind Power Data Assimilation in a Regional Model - Haves, Wants and Needs

**Stefan Declair**, Klaus Stephan, Roland Potthast  
Deutscher Wetterdienst, FE 12 - Data Assimilation,  
Offenbach, Germany (stefan.declair@dwd.de)

##### P83: EMS2015-599

Comparison of EnOI Data Assimilation Into Two Physical Models of The Thermosphere

**David R. Jackson**, Edmund Henley, Sophie A. Murray  
Met Office, Space Weather Research Group, Exeter,  
United Kingdom (david.jackson@metoffice.gov.uk)

##### P84: EMS2015-136

SATIN - Satellite driven Nowcasting system and a high resolution NWP AROME-1km model over the Eastern Alpine area

Ingo Meirold-Mautner, Florian Meier, Nauman Khurshid Awan, **Martin Suklitsch**, Alexander Kann, Christoph Wittmann, Yong Wang  
Department of forecasting models, Central Institute for Meteorology and Geodynamics, Vienna, Austria

#### END OF POSTER PROGRAMME NWP3

## NWP4 Probabilistic and ensemble forecasting at short and medium-range

**Convener:** Andrea Montani

**Co-Conveners:** Jan Barkmeijer, Fernando Prates

**Poster Area:** Sofia I

**Chairperson(s):** Montani/Prates

**Introduction:** 12:45, Kyoto

**Attendance Time:** 16:15–17:00

### P85: EMS2015-160

Predictability of Heat Wave Occurrence in Korea during Summer 2013

**Woo-Seop Lee**, Hyun-Ju Lee, Jinho Yoo

APEC Climate Center, climate change department, Busan, Republic of Korea (wslee@apcc21.org)

### P86: EMS2015-213

Benefits of an ultra large and multiresolution ensemble for estimating available wind energy

**Jonas Berndt**, Charlotte Hoppe, Hendrik Elbern

Forschungszentrum Jülich GmbH, Institute of Energy and Climate Research, Juelich, Germany, Rhenish Institute for Environmental Research at the University of Cologne, Germany

### P87: EMS2015-316

Improvement of Forecast Guidance by Blending Statistical Guidance with Direct Model Output

**JunTae Choi**, SooHyun Kim, JiYoun Kim

NIMR, Korea Meteorological Administration, Republic of Korea (cjt@kma.go.kr)

### P88: EMS2015-443

A multi-model application for wind prediction in Southern Italy

**Rosa Claudia Torcasio**, Claudia Roberta Calidonna, Elenio Avolio, Stefano Federico, Oxana Drofa, Tony Christian Landi, Piero Malguzzi, Andrea Buzzi, Paolo Bonasoni

ISAC-CNR, UOS of Lamezia Terme, Italy

**END OF POSTER PROGRAMME NWP4**



Friday, 11 September 2015					
Room	Sofia II	Sofia III	Kyoto	Vitosha	Room
09:00–10:30	<b>CL9/CE7:</b> Creating national and regional climate services in Europe through partnerships	<b>ASI16:</b> Energy Meteorology	<b>ECAM3:</b> Forecast Verification of High-Impact Weather	<b>ASI4:</b> Formulation, validation and parameterization of small-scale processes	09:00–10:30
10:30	<b>P13: Poster Introduction CL9/CE7</b>	<b>P14: Poster Introduction ASI16 - part II</b>	<b>P15: Poster Introduction NWP6</b>	<b>P16: Poster Introduction ASI4</b>	10:30
10:45–11:30	<b>Poster Session &amp; Coffee Break   Foyer and Room Sofia I</b>  <i>Poster authors in attendance time for the following sessions:</i> ECAM programme group: <b>ECAM3</b> (P1 - P14) ASI programme group: <b>ASI4</b> (P15 - P24), <b>ASI16 - part II</b> (P37 - P47) CL programme group: <b>CL9/CE7</b> (P56 - P57) NWP programme group: <b>NWP6</b> (P89 - P94)				10:45–11:30
11:30–13:00	<b>CL9/CE7</b> <i>continued</i>	<b>ASI16</b> <i>continued</i>	<b>NWP6:</b> Mesoscale Verification Inter-Comparison over Complex Terrain (MesoVICT)	<b>ASI4</b> <i>continued</i>	11:30–13:00
13:00	<b>Small reception &amp; announcement of poster award recipient: 13:15–14:00   Foyer</b>				13:00

In the detailed daily programme (on page 86 to 95) the related ECAM, ASI, CL, and NWP sessions are listed in the following order: ECAM3, ASI14, ASI16, CL9/CE7, NWP6.

#### Poster display time Thursday to Friday

Authors are kindly asked to put up their posters as soon as possible within the allocated display time in order to enable the conference participants to view their posters at any time within the display days, and to take them down on Friday between 13:00–14:00. Posters that have not been removed within this dismantling time will be removed and disposed off.

## Applications of Meteorology

### ECAM3 Forecast Verification of High-Impact Weather

**Convener:** Pertti Nurmi  
**Co-Convener:** Martin Göber  
**Lecture Room:** Kyoto

**09:00–10:30**

**Chairperson(s):** Laurie Wilson

**09:00–09:15: EMS2015-550**

Advanced Methods for Climate and Regional Model Validation with Societal Applications

**Barbara Brown**, Eric Gilleland, Caspar Ammann, Tressa Fowler, Randy Bullock  
 NCAR, RAL, Boulder, United States (bgb@ucar.edu)

**09:15–09:30: EMS2015-284**

Verification of user-oriented monthly and seasonal forecasts

**Christoph Spirig**, Jonas Bhend, Irina Mahlstein, Mark Liniger  
 Federal Office of Meteorology and Climatology  
 MeteoSwiss, Zurich, Switzerland  
 (christoph.spirig@meteoswiss.ch)

**09:30–09:45: EMS2015-228**

Evaluation of summer temperature and precipitation predictions from NCEP CFSv2 retrospective forecast over China

**Wei Tang**, Lifeng Luo, Zhaohui Lin, Eric Wood  
 China Meteorological Administration Training Centre, Beijing, China (weitang@cma.gov.cn)

**09:45–10:00: EMS2015-307**

Ensemble versus deterministic performance: what are the benefits for thresholds of interest from a weather hazards/impacts perspective

**Marion Mittermaier**, Gabriella Csima  
 Met Office, Weather Science, Exeter, United Kingdom  
 (marion.mittermaier@metoffice.gov.uk)

**10:00–10:15: EMS2015-600**

Probabilistic predictability of weather types in operational ensemble forecasts and the Lorenz model

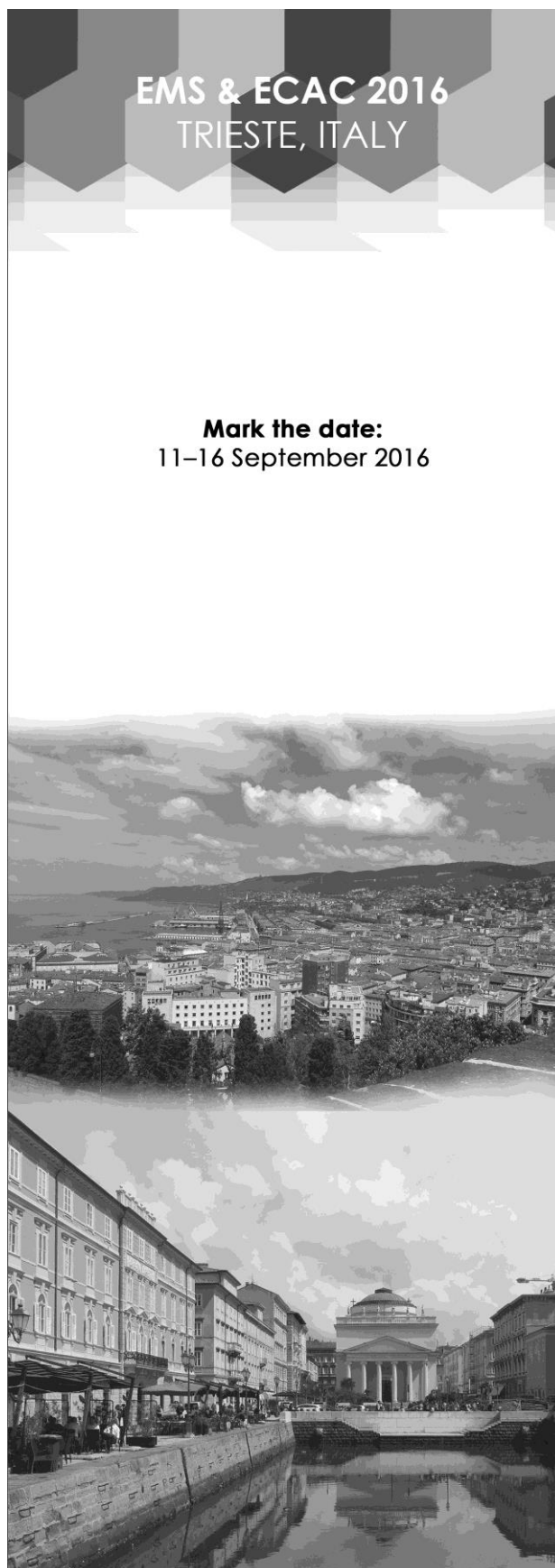
**Martin Göber**, Eric Förster, Peter Nevir, Paul James  
 Deutscher Wetterdienst (DWD), Offenbach, Germany  
 (martin.goeber@dwd.de), Hans-Ertel-Centre for Weather Research (HERZ)

**10:15–10:30: EMS2015-81**

Quality Evaluation of Quantitative Precipitation Estimates from CMA for Grid Precipitation verification

**Zhao Bin**  
 National Meteorological Center, Beijing, 100081, China  
 (zhaob@cma.gov.cn)

**END OF ORAL PROGRAMME ECAM3**



**Mark the date:**  
 11–16 September 2016

## The Atmospheric System and its Interactions

### ASI4 Formulation, validation and parameterization of small-scale processes in atmospheric modelling

**Convener:** Gert-Jan Steeneveld

**Co-Conveners:** Bert Holtslag; Lisa Bengtsson

**Lecture Room:** Vitoshia

**09:00–10:30**

**Chairperson(s):** Gert-Jan Steeneveld

**09:00–09:30: EMS2015-10**

Why models fail or succeed in representing the Arctic winter boundary layer – a GASS model intercomparison (solicited)

**Felix Pithan**, Andrew Ackerman, Wayne Angevine, Kerstin Hartung, Luisa Ickes, Thorsten Mauritsen, Brian Medeiros, Irina Sandu, Gert-Jan Steeneveld, Marina Sterk, Gunilla Svensson, Paul Vaillancourt, Ayrton Zadra  
University of Reading, Department of Meteorology, United Kingdom (f.pithan@reading.ac.uk)

**09:30–09:45: EMS2015-454**

Prediction of nocturnal boundary layer regimes

**Bas van de Wiel**, Ivo Van Hooijdonk, Judith Donda, Arnold Moene, Harm Jonker, Herman Clercx, Fred Bosveld  
Eindhoven Technical University, Tilburg, Netherlands (b.j.h.v.d.wiel@tue.nl)

**09:45–10:00: EMS2015-420**

Preliminary results of the GABLS4 intercomparison

**Eric Bazile**, Patrick Le Moigne, Fleur Couvreur, Bert Holtslag, Gunilla Svensson  
Météo-France, CNRM/GAME, Toulouse, France (eric.bazile@meteo.fr)

**10:00–10:15: EMS2015-423**

Sensitivity tests of the surface characteristics in the GABLS4 experiment

**Patrick Le Moigne**, Eric Bazile, Fleur Couvreur, Guylaine Canut, William Maurel  
CNRM-GAME, Météo-France/CNRS, France (patrick.lemoigne@meteo.fr)

**10:15–10:30: EMS2015-217**

Surface-soil tiling strategies in JULES

**Richard Gilham**, Heather Ashton, Martin Best  
Met Office, Fitzroy Road, Exeter, EX1 3PB United Kingdom (richard.gilham@metoffice.gov.uk)

**10:30 Coffee break**

**11:30–13:00**

**Chairperson(s):** Bert Holtslag

**11:30–12:00: EMS2015-59**

Convection across scales and challenges toward high-resolution (solicited)

**Peter Bechtold**, Sylvie Malardel, Linus Magnusson, Nils Wedi  
ECMWF, Reading, United Kingdom (peter.bechtold@ecmwf.int)

**12:00–12:15: EMS2015-58**

Representation of turbulence in deep convective clouds at gray-zone resolutions

**Antoine Verrelle**, Didier Ricard, Christine Lac  
CNRM-GAME (Météo-France, CNRS), Toulouse, France (antoine.verrelle@meteo.fr)

**12:15–12:30: EMS2015-109**

Representing turbulence in the grey zone

**Rachel Honnert**, Fleur Couvreur, Pascal Marquet, Dàvid Lancz  
CNRM, GMAP, Toulouse, France (rachel.honnert@meteo.fr)

**12:30–12:45: EMS2015-562**

The Impact of Clouds, Land use and Snow Cover on Climate in the Canadian Prairies

**Raymond Desjardins**, Alan Betts, Devon Worth  
Agriculture and Agri-Food Canada, Research Branch, Ottawa, Canada (ray.desjardins@agr.gc.ca)

**12:45–13:00: EMS2015-608**

Differences in the nocturnal heat budget of an Alpine valley in pooling and draining configurations

Gabriele Arduini, **Charles Chemel**, Chantal Staquet  
University of Hertfordshire, Hatfield, United Kingdom, National Centre for Atmospheric Science, University of Hertfordshire, Hatfield, United Kingdom (c.chemel@herts.ac.uk)

**END OF ORAL PROGRAMME ASI4**

## ASI16 Energy Meteorology

**Convener:** Sven-Erik Gryning  
**Co-Conveners:** Ekaterina Batchvarova; Lucien Wald;  
 Marion Schroedter-Homscheidt  
**Lecture Room:** Sofia III

**09:00–10:30**

**Chairperson(s):** Lucien Wald

**09:00–09:15: EMS2015-429**

Cloud, aerosols and the directional distribution of solar irradiances

**Kristian Pagh Nielsen**, Elsa Andersen, Simon Furbo, Janne Dragsted, Emily Gleeson  
 Danish Meteorological Institute, Department of Research and Development, Copenhagen, Denmark  
 (kpn@dmi.dk)

**09:15–09:30: EMS2015-211**

Verification of sectoral cloud motion based global and direct normal irradiance nowcasting

**Marion Schroedter-Homscheidt**, Luca Kraus, Miriam Kosmale  
 DLR Oberpfaffenhofen, Germany (marion.schroedter-homscheidt@dlr.de)

**09:30–09:45: EMS2015-321**

Nowcasting of Direct Normal Irradiance with the High Temporal and Spatial Resolution of MSG/SEVIRI

**Tobias Sirch**, Luca Bugliaro  
 Institut für Physik der Atmosphäre, DLR, Oberpfaffenhofen, Germany (Luca.Bugliaro@dlr.de)

**09:45–10:00: EMS2015-335**

Preliminary assessment of a new SoDa service for real-time estimates and short-term forecasts of the solar radiation

**Claire Thomas**, Laurent Saboret, Etienne Wey, Philippe Blanc, Lucien Wald  
 MINES ParisTech - PSL Research University, Sophia Antipolis cedex, France (lucien.wald@mines-paristech.fr)

**10:00–10:15: EMS2015-508**

Intraday solar energy forecasting using cloud motion observation from satellite combined with WRF irradiance forecast

**Sylvain Cros**, Raphaël Thomas, Mathieu Turpin, Caroline Lallemand, Nicolas Sébastien, Nicolas Schmutz  
 Reuniwatt SAS, R&D, Paris, France  
 (sylvain.cros@reuniwatt.com)

**10:15–10:30: EMS2015-490**

Forecasting direct and diffuse irradiance with the use of hemispheric sky images

Thomas Schmidt, **John Kalisch**, Elke Lorenz, Detlev Heinemann  
 Carl von Ossietzky Univ. Oldenburg, Physics, Energy Meteorology, Germany (john.kalisch@uni-oldenburg.de)

**10:30 Coffee break**

**11:30–13:00**

**Chairperson(s):** Marion Schroedter-Homscheidt

**11:30–11:45: EMS2015-318**

Which effective solar zenith angles to use for hourly irradiation measurements?

Philippe Blanc, **Lucien Wald**

MINES ParisTech - PSL Research University, Sophia Antipolis cedex, France (lucien.wald@mines-paristech.fr)

**11:45–12:00: EMS2015-67**

Investigating the impact of clouds on solar energy production - Analyzing different photovoltaic technologies on different time scales

**Stefanie Meilinger**, Ina Neher, Evandro Dresch, Khurshid Hasan, Bernd Evers-Dietze, Dieter Franke  
 Bonn-Rhein-Sieg University of Applied Sciences, Germany (Stefanie.Meilinger@h-brs.de)

**12:00–12:15: EMS2015-563**

Solar energy lost in a Solar Thermal Energy plant, due to aerosol extinction between the heliostats and the optical receiver

**Thierry ELIAS**, Didier RAMON, Laurent DUBUS, Charles Bourdil, Rémi Perrin, Emilio Cuevas-Agulló, Taoufik Zaidouni  
 HYGEOS, Lille, France (te@hygeos.com)

**12:15–12:30: EMS2015-230**

Assessing the temporal variability of the surface solar radiation with time-frequency-energy representations

**Marc Bengulescu**, Philippe Blanc, Lucien Wald  
 MINES ParisTech - PSL Research University, Center for Observation, Impacts, Energy, Sophia Antipolis cedex, France (lucien.wald@mines-paristech.fr)

**12:30–12:45: EMS2015-622**

Trend evaluations of meteorological variables and solar global and ultraviolet horizontal irradiation in Spain

**Julia Bilbao**, Roberto Román, Argimiro de Miguel  
 University of Valladolid, Faculty of Sciences, Atmosphere and Energy Laboratory, Spain

**12:45–13:00: EMS2015-175**

A new CM SAF Solar Surface Radiation Climate Data Set derived from Meteosat Satellite Observations

Jörg Trentmann, Richard Müller, Uwe Pfeifroth, Christine Träger-Chatterjee, Roswitha Cremer, **Steffen Kothe**  
 Deutscher Wetterdienst, Germany  
 (steffen.kothe@dwd.de)

**END OF ORAL PROGRAMME ASI16**

## Climate

### Research and services for socio-economic sectors

### CL9/CE7 Creating national and regional climate services in Europe through

**Conveners:** Clare Goodess; Carlo Buontempo

**Co-Conveners:** Tanja Cegnar; Chris Hewitt; Filipe Lúcio; Tomas Halenka; Francisco J. Doblas-Reyes

**Lecture Room:** Sofia II

**09:00–10:30**

**Chairperson(s):** Carlo Buontempo

**09:00–09:15: EMS2015-476**

Climate services from a user point of view

**Paul-Antoine Michelangeli**, Sylvie Parey, Laurent Dubus, Amélie Laugel  
EDF R&D, Chatou, France

**09:15–09:30: EMS2015-333**

Tracing the use (and potential use) of seasonal climate forecasts across Europe

**Marta Bruno Soares**, Suraje Dessai and the EUPORIAS WP12 Team  
Sustainability Research Institute, School of Earth and Environment, University of Leeds, United Kingdom (m.soares@leeds.ac.uk), Centre for Climate Change Economics and Policy, London School of Economics and Political Science and University of Leeds

**09:30–09:45: EMS2015-51**

Interaction with users during the development of the KNMI'14 regional climate change scenarios

**Janette Bessembinder**, Alexander Bakker, Bart van den Hurk, Bernadet Overbeek  
KNMI, Netherlands

**09:45–10:00: EMS2015-283**

Tailored climate indices can improve seasonal forecasts

**Irina Mahlstein**, Jonas Bhend, Christoph Spirig, Mark Liniger  
MeteoSwiss, Zurich, Switzerland  
(irina.mahlstein@meteoswiss.ch)

**10:00–10:15: EMS2015-392**

Use of seasonal forecasts for water resources management in Spain

Laurent Pouget, Tamara Roldán, Manuel Gomez, Àngels Cabello, **Ernesto Rodriguez-Camino**, Beatriz Navascues, Jose Voces, Federico Franco, Pau Comas, Fernando Pastor, M<sup>a</sup> Concepción García-Gómez, Juan J. Gil, Delfina Gil, Rogelio Galván  
AEMET, Spain

**10:15–10:30: EMS2015-587**

Making seasonal prediction information useful for application in the energy sector

**Stefano Materia**, Silvio Gualdi  
Centro Euro-Mediterraneo sui Cambiamenti Climatici, Bologna, Italy (stefano.materia@cmcc.it)

**10:30 Coffee break**

**11:30–13:00**

**Chairperson(s):** Carlo Buontempo

**11:30–11:45: EMS2015-220**

The project CLIMANDES - Creating climate services for the Peruvian Andes

**Stefanie Gubler**, Mischa Croci-Maspoli, Thomas Konzelmann, Clara Oria, Gabriela Rosas, Delia Acuña, Mario Rohrer  
Zürich, Zürich, Switzerland  
(stefanie.gubler@meteoswiss.ch)

**11:45–12:00: EMS2015-347**

A status on the development of The Norwegian Centre for Climate Service

**Hans Olav Hygen**, Inger Hanssen-Bauer, Hanne Heiberg  
Norwegian Meteorological Institute, Norwegian Centre for Climate Service, Oslo, Norway  
(hans.olav.hygen@met.no)

**12:00–12:15: EMS2015-232**

The IMPACT2C web-atlas

**Swantje Preuschmann**, Daniela Jacob  
Climate Service Center 2.0, Climate System, Hamburg, Germany (swantje.preuschmann@hzg.de)

**12:15–12:30: EMS2015-192**

Weather Derivatives on Human Health: The case of OxyAlert

Pablo Fdez-Arroyabe, Falko Schmidt, **Lecha Luis**  
Centro de Estudios Ambientales de Villa Clara, CESAM, Cuba

**12:30–12:45: EMS2015-463**

Exploring the effect of weather and climate on official statistics

**Mark McCarthy**, Jennifer Davies, Duncan Elliot  
Met Office, Hadley Centre, Exeter, United Kingdom  
(mark.mccarthy@metoffice.gov.uk)

**12:45–13:00: EMS2015-505**

The World Energy & Meteorology Council: a link between researchers and users of weather and climate services in the energy sector

**Laurent Dubus**, Alberto Troccoli, Sue Ellen Haupt, Mohammed Sadeck Boulahya  
EDF R&D, Applied Meteorology and Atmospheric Environment, Chatou Cedex, France  
(laurent.dubus@edf.fr)

**END OF ORAL PROGRAMME CL9/CE7**

## Numerical Weather Prediction

### NWP6 Mesoscale Verification Inter-Comparison over Complex Terrain (MesoVICT)

**Convener:** Marion Mittermaier  
**Co-Conveners:** Manfred Dorninger; Eric Gilleland  
**Lecture Room:** Kyoto

**11:30–13:00**

**Chairperson(s):** Anastasia Bundel

**11:30–11:45: EMS2015-560**

MesoVICT - overview and current status  
Manfred Dorninger, **Marion Mittermaier**, Eric Gilleland,  
Barb Brown, Beth Ebert, Laurence Wilson  
Met Office, Exeter, United Kingdom  
(marion.mittermaier@metoffice.gov.uk)

**11:45–12:00: EMS2015-185**

Spatial verification activities at ARPA-SIMC: first results  
on MesoVICT cases  
**Maria Stefania Tesini**, Andrea Montani, Chiara  
Marsigli, Tiziana Paccagnella  
ARPA-SIMC, Hydro-Meteo-Climat Regional Service,  
Bologna, Italy (mstesini@arpa.emr.it)

**12:00–12:15: EMS2015-518**

Suitability of complex matching criteria in the contiguous  
rain area analysis: a MesoVICT study on MAP D-  
PHASE high-impact events  
**Stefano Mariani**, Marco Casaioli  
Institute for Environmental Protection and Research  
(ISPRA), Rome, Italy (stefano.mariani@isprambiente.it;  
marco.casaioli@isprambiente.it)

**12:15–12:30: EMS2015-229**

Spatial verification using the Dual-Tree Complex  
Wavelet Transform: a MesoVICT case study  
Alex Deckmyn, **Geert Smet**, Bert Van Schaeybroeck  
Royal Meteorological Institute of Belgium, Brussels,  
Belgium (geert.smet@meteo.be)

**12:30–12:45: EMS2015-561**

Towards a simple and easy to interpret wind verification  
scheme  
**Manfred Dorninger**  
University of Vienna, Department of Meteorology and  
Geophysics, Wien, Austria  
(manfred.dorninger@univie.ac.at)

**12:45–13:00: EMS2015-301**

Exploring the impact of neighbourhood size and height  
stratification in neighbourhood-based methods using  
single-site observation  
**Marion Mittermaier**  
Met Office, Weather Science, Exeter, United Kingdom  
(marion.mittermaier@metoffice.gov.uk)

**END OF ORAL PROGRAMME NWP6**

## Applications of Meteorology

### ECAM3 Forecast Verification of High-Impact Weather

**Convener:** Pertti Nurmi

**Co-Convener:** Martin Göber

**Poster Area:** Sofia I

**Chairperson(s):** Pertti Nurmi

**Introduction:** Thursday, 16:00, Kyoto

**Attendance Time:** 10:45–11:30

**P1: EMS2015-98**

Verification of the MeteoExpert nowcasts

**Tatiana Bazlova**, Nikolai Bocharnikov

IRAM, Russian Federation (expert@iram.ru)

**P2: EMS2015-393**

Applicability of the FMI Road Weather Model (RWM) for use in winter maintenance activities for the Dutch highways

Sander Tijm, **Marcel Molendijk**, Virve Karsisto, Evgeny Atlaskin, Pertti Nurmi, Jan Dekker

KNMI, De Bilt, Netherlands

**P3: EMS2015-75**

Quantifying the effect of radar observational uncertainty on the verification of kilometer-scale NWP precipitation forecasts using the Fractions Skill Score

**Lesley Allison**, Marion Mittermaier, Robert Scovell, Chris Vernon, Katie Norman, Clive Pierce

Weather Science, Met Office, Exeter, Devon, UK

**P4: EMS2015-194**

Verification and uncertainty analysis of clouds and precipitation in high resolution models using 3D radar data

**Dan Zhang**, Kathrin Wapler, Ulrich Blahak

Deutscher Wetterdienst, Offenbach am Main, Germany (dan.zhang@dwd.de)

**P5: EMS2015-551**

The Model Evaluation Tools: Expanded tools for forecast evaluation

**Barbara Brown**, Tara Jensen, John Halley Gotway, Paul Kucera, Randy Bullock, Tressa Fowler

NCAR, RAL, Boulder, United States (bgb@ucar.edu)

**P6: EMS2015-122**

A large-scale model verification and comparison system

**Thorsten Riess**

W3 Data GmbH, Konstanz, Germany (riess@w3-data.de)

**P7: EMS2015-159**

Verification of long range drought forecasts

**Lovro Kalin**, Domagoj Mihajlovic, Ksenija Cindric Kalin, Blazenka Matjacic

Meteorological and Hydrological Service of Croatia, DHMZ, Zagreb, Croatia (kalin@cirus.dhz.hr)

**P8: EMS2015-457**

Challenges in Verifying Hazard Impact Models

**Rebecca Hemingway**

United Kingdom (rebecca.hemingway@metoffice.gov.uk)

**P9: EMS2015-73**

Communicating forecast verification results to decision-makers

**Marianne Giroud Gaillard**, Daniel Cattani, Michel Matter, Anna Faes

MeteoSwiss, Analyses & Forecast, Genève 2, Switzerland (marianne.giroud@meteoswiss.ch)

**P10: EMS2015-223**

Verification of precipitation forecasts for hydrological modelling for small basins in the Czech Republic

**Martin Vokoun**

Czech Republic (vokounm@fzp.czu.cz)

**P11: EMS2015-243**

Study of NWP parameterizations on extreme precipitation events over Basque Country

Ivan R. Gelpi, **Santiago Gaztelumendi**, Sheila Carreño, Roberto Hernandez, Joseba Egaña

Basque Meteorology Agency (Euskalmet), Tecnalia - Energy and Environment Division - Meteorology Area.

**P12: EMS2015-456**

Warning/alert/alarm verification in Basque Country: the Euskalmet case.

**Santiago Gaztelumendi**, Joseba Egaña, José Antonio Aranda, Pedro Anitua

Basque Meteorology Agency (EUSKALMET), TECNALIA R&I, Energy and Environment Division, Meteorology Area

**P13: EMS2015-465**

Weather predictions verification using feature based methods

**Ioannis Tegoulis**, Ioannis Pytharoulis, Stylianos Kotsopoulos, Stergios Kartsios, Dimitrios Bampzelis, Theodore Karacostas

Aristotle University of Thessaloniki, Department of Meteorology and Climatology, Thessaloniki, Greece (tegoulia@auth.gr)

**P14: EMS2015-151**

Verification of the Canadian GDPS-YY25 (Global Deterministic Prediction System) using bootstrapping procedure

**Marcel Vallee**

Environment Canada, RPN, Dorval, Canada (marcel.vallee@ec.gc.ca)

**END OF POSTER PROGRAMME ECAM3**

## The Atmospheric System and its Interactions

### ASI4 Formulation, validation and parameterization of small-scale processes in atmospheric modelling

**Convener:** Gert-Jan Steeneveld

**Co-Conveners:** Bert Holtslag, Lisa Bengtsson

**Poster Area:** Sofia I

**Chairperson(s):** Gert-Jan Steeneveld

**Introduction:** 10:30, Vitosha

**Attendance Time:** 10:45–11:30

#### P15: EMS2015-111

WRF Model Experiments on Local Wind Patterns in Petuniabukta, Svalbard

**Zuzana Chladova**, Kamil Laska, Jiri Hosek  
Institute of Atmospheric Physics CAS, Prague, Czech Republic (chladova@ufa.cas.cz)

#### P16: EMS2015-208

Impact of Planetary Boundary Layer parametrization scheme and land cover classification on surface processes: wind speed and temperature bias spatial distribution analysis over south Italy

**Francesca Fedele**, Andrea Tateo, Micaela Menegotto, Annarita Turnone, Benedetto Figorito, Anna Guarnieri Calò Carducci, Crescenza Calculli, Nunziata Ribecco, Alessio Pollice, Roberto Bellotti  
Dipartimento di Fisica, University of Bari, Bari, Italy (andrea.tateo@virgilio.it), Apulia Region Environmental Protection Agency (ARPA Puglia), Bari -Italy (f.fedele@arpa.puglia.it, a.guarnieri@arpa.puglia.it, m.menegotto@arpa.puglia.it, a.turnone@arpa.puglia.it, b.figorito@arpa.puglia.it)

#### P17: EMS2015-240

The turbulent fluxes and TKE budget in Amazonia using LES PALM model

**Gilberto Fisch**, Theomar Neves, Sigfried Raasch  
Aeronautic and Space Institute, Atmospheric Science Division, São José dos Campos, Brazil (fisch.gilberto@gmail.com)

#### P18: EMS2015-294

From cloud to precipitation: a case study of layered mixed-phased cloud using WRF and remote sensing and surface observations.

**Victoria Sinclair**, Dmitri Moisseev, Ewan O'Connor, Tuukka Petäjä  
University of Helsinki, Division of Atmospheric Sciences, Department of Physics, Helsinki, Finland (Victoria.Sinclair@helsinki.fi)

#### P19: EMS2015-534

Comparison of cumulus convection schemes in RegCM experiments for the Carpathian Region

**Karolina André**, Ildikó Pieczka, Judit Bartholy, Rita Pongrácz  
Eötvös Loránd University, Dept. of Meteorology, Budapest, Hungary

#### P20: EMS2015-541

Improved cloud microphysics parameterization in COSMO-MUSCAT coupled model along with COSP satellite simulator

**Dipu Sudhakar**, Johannes Quaas, Ralf Wolke, Jens Stoll, Andreas Muhlbauer, Ina Tegen  
Institute for Meteorology, University of Leipzig, Germany, (dipu.sudhakar@uni-leipzig.de, johannes.quaas@uni-leipzig.de)

#### P21: EMS2015-451

Characterization of low-scale oscillations of wind velocities and temperature during low-wind conditions

**Luca Mortarini**, Silvia Trini Castelli, Domenico Anfossi, Gervasio Degrazia  
ISAC - CNR, Torino, Italy (l.mortarini@isac.cnr.it)

#### P22: EMS2015-493

Optimization of PBL schemes in the meso-scale model WRF for offshore wind conditions based on comparisons to measurements and LES simulations

**Hauke Wurps**, Gerald Steinfeld, Jens Tambke, Martin Dörenkämper  
ForWind - Center for Wind Energy Research, Carl von Ossietzky Universität Oldenburg, Germany (hauke.wurps@forwind.de)

#### P23: EMS2015-197

Relating MSG rain over the tropical atlantic with ASCAT derived surface divergence and vorticity

**Gregory King**, Wenming Lin, Marcos Portabella, Ad Stoffelen, Anton Verhoef  
Institut de Ciències del Mar (ICM-CSIC), ICM-CSIC CIF: Q2818002D, Barcelona, Spain (gking@icm.csic.es)

#### P24: EMS2015-475

Modifying and evaluating the land surface parameterization of the mesoscale model METRAS for long-term simulations

**Christopher Purr**, Felix Ament, Heinke Schlünzen, Marita Boettcher  
Meteorological Institute, University of Hamburg, Germany

#### END OF POSTER PROGRAMME ASI4



## ASI16 Energy Meteorology

**Convener:** Sven-Erik Gryning

**Co-Conveners:** Ekaterina Batchvarova, Lucien Wald, Marion Schroedter-Homscheidt

**Poster Area:** Sofia I

**Chairperson(s):** Marion Schroedter-Homscheidt

**Introduction Part II:** 10:30, Sofia III

**Attendance Time:** Friday, 10:45–11:30

### P37: EMS2015-143

The present state and long term variations of the Black Sea wave power

**Vasko Galabov**

National Institute of Meteorology and Hydrology (NIMH-BAS), Bulgaria (vasko.galabov@meteo.bg)

### P38: EMS2015-25

The SOLEA Project: nowcasting solar energy spectra and UV products

**Panagiotis Kosmopoulos**, Michael Taylor, Stelios Kazadzis

Institute for Environmental Research and Sustainable Development, National Observatory of Athens, Greece, Faculty of Applied and Environmental Physics, Aristotle University of Thessaloniki, Greece

### P39: EMS2015-69

Energy meteorology studies investigating the impact of clouds on solar energy production - Coupling a spectrally resolved radiation model and a two-diode model for solar cells to simulate PV power yields

**Ina Neher**, Evandro Dresch, Khurshid Hasan, Bernd Evers-Dietze, Dieter Franke, Stefanie K. Meilinger International Center for Sustainable Development, University of Applied Sciences Bonn-Rhein-Sieg, Sankt Augustin, Germany (Ina.Neher@h-brs.de)

### P40: EMS2015-26

A machine learning approach to derive surface solar irradiance spectra directly from satellite

**Michael Taylor**, Panagiotis Kosmopoulos, Stelios Kazadzis, Iphigenia Keramitsoglou, Chris Kiranoudis Institute for Environmental Research and Sustainable Development, National Observatory of Athens, Greece

### P41: EMS2015-181

Solar energy availability for Slovenia - spatial and temporal variability

Bostjan Grasic, Primoz Mlakar, **Marija Zlata Boznar**, Dragana Kokal

MEIS d.o.o., Smarje - Sap, Slovenia (info@meis.si)

### P42: EMS2015-235

Assessing the surface solar irradiance under cloud-free skies in Israel with the McClear model

Mireille Lefevre, **Lucien Wald**

MINES ParisTech - PSL Research University - Center for Observation, Impacts, Energy, Sophia Antipolis Cedex, France (lucien.wald@mines-paristech.fr)

### P43: EMS2015-276

Comparison of HelioClim-3v5 satellite irradiation data with in situ measurements for five states in Brazil Etienne Wey, **Claire Thomas**, Philippe Blanc, Lucien Wald

Transvalor, Mougins, France

(claire.thomas@transvalor.com)

### P44: EMS2015-330

Satellite-Based Surface Solar Irradiance Nowcast in Alpine Areas

**Tobias Götsch**, Jochen Wagner, Reto Stöckli, Marc Olefs, Helmut Rott

Institute of Meteorology and Geophysics, University of Innsbruck, Austria

### P45: EMS2015-407

Validation of satellite-based surface solar irradiance calculations in Alpine areas

**Andreas Luther**, Friedrich Obleitner, Marc Olefs, Reto Stöckli

Institute of Meteorology and Geophysics, University of Innsbruck, Austria, Institute for applied remote sensing, EURAC, Bozen, Italy

### P46: EMS2015-450

Comparison of the solar power production from different methodologies at a coastal Mediterranean site

**Teresa Lo Feudo**, Elenio Avolio, Stefano Federico, Claudia Roberta Calidonna, Anna Maria Sempreviva ISAC-CNR, UOS of Lamezia Terme, Italy

(t.lofeudo@gmail.com)

### P47: EMS2015-514

Day-ahead solar radiation forecasting using GFS and artificial neural networks

**Nicolas Sébastien**, Pierre Zanchetta, Laurent Huet, Nicolas Nitche, Sylvain Cros, Nicolas Schmutz

Reuniwatt SAS, R&D, Sainte-Clotilde, Reunion Island, France (sylvain.cros@reuniwatt.com)

## END OF POSTER PROGRAMME ASI16

## Climate

### Research and services for socio-economic sectors

**CL9/CE7 Creating national and regional climate services in Europe through partnerships (co-organized)**

**Conveners:** Clare Goodess, Carlo Buontempo

**Co-Conveners:** Tanja Cegnar, Chris Hewitt, Filipe Lúcio, Tomas Halenka, Francisco J. Doblas-Reyes

**Poster Area:** Sofia I

**Chairperson(s):** Carlo Buontempo

**Introduction:** 10:30, Sofia II

**Attendance Time:** 10:45–11:30

**P56: EMS2015-42**

El Niño forecast information to support public health decision making

**Desislava Petrova**, Rachel Lowe, Anna Stewart-Ibarra, Xavier Rodo

Catalan Institute of Climate Science, Barcelona, Spain  
(desislava.petrova@ic3.cat)

**P57: EMS2015-381**

INTERKLIM - climate cooperation across the Czech-Saxon border

**Petr Skalak**, Lenka Hájková, Nils Feske, Anke Hahn, Petr Stepánek, Siv-Ann Lippert, Lars Schöder, Pavel Zahradnicek, Andreas Hoy, Ales Farda

Czech Hydrometeorological Institute, Department of Climatology, Praha, Czech Republic (skalak@chmi.cz), Global Change Research Centre AS CR, Brno, Czech Republic

**END OF POSTER PROGRAMME CL9/CE7**

## Numerical Weather Prediction

### NWP6 Mesoscale Verification Inter-Comparison over Complex Terrain (MesoVICT)

**Convener:** Marion Mittermaier

**Co-Conveners:** Manfred Dorninger, Eric Gilleland

**Poster Area:** Sofia I

**Chairperson(s):** Manfred Dorninger

**Introduction:** 10:30, Kyoto

**Attendance Time:** 10:45–11:30

**P89: EMS2015-250**

An intensity-scale skill score to assess the added value of enhanced resolution

**Barbara Casati**, Anna Glazer, Jason Milbrandt, Vincent Fortin  
Meteorological Research Division, Environment Canada

**P90: EMS2015-300**

Analysis of Fraction Skill Score properties in idealized cases

**Gregor Skok**

University of Ljubljana, Faculty of Mathematics and Physics, Ljubljana, Slovenia (gregor.skok@fmf.uni-lj.si)

**P91: EMS2015-437**

Using regional reanalyses for the spatial verification of high-resolution model output

**Sabrina Wahl**, Christian Ohlwein, Jan Keller, Petra Friederichs, Andreas Hense

University of Bonn, Meteorological Institute, Bonn, Germany (wahl@uni-bonn.de), Hans-Ertel Centre for Weather Research - Climate Monitoring Branch

**P92: EMS2015-477**

A Wavelet Approach to the Verification of Probabilistic Spatial Fields

**Michael Weniger**, Petra Friederichs

Meteorological Institute, University Bonn, Germany (mweniger@uni-bonn.de)

**P93: EMS2015-573**

When can we classify a model as good or bad? - Quality assurance of mesoscale predictions in high complex terrain

**Ronny Petrik**, K. Heinke Schlünzen, Dietmar Öttl  
University of Hamburg, Meteorological Institute, Germany (ronny.petrik@zmaw.de)

**P94: EMS2015-140**

Intercomparison of Spatial Verification Methods for

COSMO Terrain (INSPECT): Preliminary Results

Dmitry Alferov, Elena Astakhova, Dimitra Boukouvala, **Anastasia Bundel**, Ulrich Damrath, Pierre Eckert, Flora Gofa, Alexander Kirsanov, Xavier Lapillonne, Joanna Linkowska, Chiara Marsigli, Andrea Montani, Anatoly Muraviev, Elena Oberto, Maria Stefania Tesini, Naima Vela, Andrzej Wyszogrodzki, Mikhail Zaichenko  
RHM (a.bundel@gmail.com)

**END OF POSTER PROGRAMME NWP6**

**The End**

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