

16th Annual Meeting of the European Meteorological Society & 11th European Conference on Applied Climatology 2016



Where atmosphere, sea and land meet:
bridging between sciences, applications
and stakeholders

16th EMS Annual Meeting & 11th European Conference on Applied Climatology (ECAC)

Programme

Trieste | Italy | 12–16 September 2016



EUMETNET
EUROPEAN METEOROLOGICAL SERVICES NETWORK



EMS & ECAC | 12–16 September 2016 | Trieste, Italy

Time/Room	Saturnia	Vulcania 1	Oceania AB	Oceania C	Vulcania 2
Monday, 12 September 2016					
09:30–13:00	Opening Session (in Saturnia)				
14:00–16:00	SE1/CE8: Creating CS through partnerships	OBS4: Manufacturers OBS1: Atm. Measurem	ASI2: Meteor., climate and space weather	ASI16: WRF Model: Developm and Applic.	ASI1: Dynamical Meteorology
16:30–18:15	SE1/CE8	OBS1	ASI12: Phenology & agrometeorology	AM4: Reducing weather risks to transport	ASI1
18:30–19:30	Poster Sessions - Author-in-attendance : SE1/CE8, OBS1, OBS4, AM4, ASI1, ASI2, ASI12, ASI16				
19:30	Icebreaker reception in exhibition & poster area: Foyer				
Tuesday, 13 September 2016					
09:00–10:30	UC2: Climate predictions & scenarios	OBS1 (4) MC1: Climate Monit (2)	ASI8: Atmospheric Hazards	CE1: Media & Communication	UC4:The Cryosphere and its interactions
11:00–13:00	UC2	MC1	ASI9: BL Physics and parameterization	CE1	UC4 (4) ASI6/UC8 (4)
14:00–14:55	Poster Sessions - Author-in-attendance: MC1, UC2, UC4, SE3/AM2, ASI3, ASI6/UC8, ASI8, ASI9, CE1				
15:00–16:30	Awards Session (in Saturnia)				
17:00–19:00	SE3/AM2: Severe weather impacts	UC7: Synoptic climatology	ASI3: Parameter. of small scale processes	SE6/CE9: Evaluation of climate services	ASI6/UC8: Mid-latitude atm. teleconnections
Wednesday, 14 September 2016					
09:00–10:30	ASI13: Energy Meteorology	UC7: Synoptic climatology	CE2/AM3: impact based forecasts, risk based warn.	SE2: Copernicus Climate Change Serv.	ASI7/CE10: Human Biometeorology
11:00–13:00	ASI13	UC7 (5) UC6: Reanalyses (3)	AM1: High Impact Weather	CE4: Adaptation Strategies	ASI7
14:00–14:55	Poster Sessions - Author-in-attendance: UC6, UC7, SE2, AM1, ASI7/CE10, OBS3, NWP1				
15:00–17:00	ASI13	UC6	NWP1: Dynamics & pred. high-impact weather	14:30: CE7: Quality Management, Infrastr.	OBS3: Ground- and space-based GNSS
17:30–19:00	ECAC Symposium: (in Saturnia) Climate Change - Adaptation and Mitigation: : The Role of Climate Science and Services				
Thursday, 15 September 2016					
09:00–10:30	ASI13	MC2: Spatial Climatology	SE4: From predictions to impact forecasts	NWP3: Data assimilation & use of observations	CE6: Services supporting science education
11:00–13:00	ASI13	MC2	ASI5: Coupled atmos.-wave-ocean processes	NWP3 (2) NWP2 (6): Numerical aspects & physical parametr. Int.	CE5: Education
14:00–14:55	Poster Sessions - Author-in-attendance: MC2, MC3, SE4, ASI4, ASI5, ASI13, ASI14, CE6, NWP2, NWP3, NWP4				
15:00–17:00	ASI13	ASI14: Atmospheric composition, pollution	NWP4: Probabilistic & ensemble forecasting	NWP2(6) MC3 (2)	ASI5 (2) ASI4 (6)
17:30–19:00	ASI13	ASI14	NWP4	MC3: Paleoclimatology & historical climatol.	ASI4: Coastal meteorology & oceanograhy
19:30	The EMS Festa				
Friday, 16 September 2016					
09:00–10:30	UC1: CC detection, trends, variability	10:15 1-min espressi-talks; NWP7-AM5/UC3	AM6/NWP5: s2s-prediction & applications	OBS2: High-resolution precipitation monitor.	ASI10: Hydrometeorology 10:15 1-min ASI11
10:30–11:30	Poster Sessions - Author-in-attendance: UC1, AM5/UC3, AM6/NWP5, ASI10, ASI11, OBS2, NWP7				
11:30–13:00	UC1	NWP7: MesoVICT	AM6/NWP5	OBS2	ASI11: Urban climate
14:00–16:00	UC1	AM5/UC3: Climate Forecast Verification	AM6/NWP5	OBS2	ASI11
Time/Room	Saturnia (300)	Vulcania 1 (120)	Oceania AB (120)	Oceania C (120)	Vulcania 2 (80)
16:15	Small reception, announcement poster award winner 2016, closing: Foyer				

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WELCOME

WHERE ATMOSPHERE, SEA AND LAND MEET: BRIDGING BETWEEN SCIENCES,
APPLICATIONS AND STAKEHOLDERS

Dear participants, welcome to the EMS Annual Meeting and the European Conference on Applied Climatology 2016 in Trieste.

Under this year's theme the conference explores how to support stakeholders, practitioners and decision makers to mitigate as far as possible future environmental change and to adapt where and when necessary.

Historically, many major centres of economic and cultural activities have developed in coastal areas (currently nearly 40% of Europe's population live within 50 km from the coast). Therefore, many issues on safety, socio-economic impacts and infrastructure investments are particularly urgent in coastal areas. These are linked to the changing atmospheric and oceanic circulation, sea level rise, extreme events, floods and landslides.

The ECAC theme 2016 explores these intertwined issues with special emphasis on sea-atmosphere-land interactions and transitions. Assessing and predicting the evolution of the environment and impacts will have to go hand-in-hand with developing solutions supporting risk assessment, preparedness and mitigation.

Conference programme

The **session programme** includes 265 poster and 450 oral presentations in 46 sessions. Both, poster and oral presentations are important for the conference – they offer diverse opportunities for discussions and the presentation of the authors' work. Time slots for 1-minute espresso-talks to briefly introduce the content of poster presentations are scheduled for all sessions, mostly within the oral block or at the start of the poster session.

Poster sessions on Tuesday, Wednesday and Thursday are scheduled after the lunch break, (Italian) coffee will be available.

The winner of the **Outstanding Poster Award** will be announced on Friday at 16:15h, but the prize will be awarded at the next Annual Meeting 2017 in Dublin.

At the plenary **ECAC Symposium** on Climate Change – Adaption and Mitigation a panel will discuss – with the audience – questions such as: How can the COP21 target be met? What does the target mean for climate change research and for climate services? What is the relevance of links between NGOs and science? What are mitigation options and is geoengineering a viable approach?

Side meetings, workshops and the social programme will provide many opportunities for **networking** at the conference. Make ample use of these – this is the *raison d'être* of the meetings.

Detailed information about the session programme is also available on the website and through the **ems2016-app** for mobile devices that now offers the option to contact authors directly.

The exhibition – use the opportunity

The conference will also feature a small exhibition of commercial companies involving manufacturers of meteorological instruments. 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.

Thank you

We are grateful to all who have contributed to make this meeting in Trieste 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.

Welcome again, and we hope you will have a very interesting week in Trieste, where atmosphere, sea and land meet.

General information

Location and conference address

The 16th EMS Annual Meeting & the 11th European Conference on Applied Climatology (ECAC) are held jointly in Trieste, Italy from 12 to 16 September 2016.

Venue

Stazione Marittima Congress Centre Trieste
Molo Bersaglieri 3
34124 Trieste
Italy

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.

Cover picture

The cover picture was kindly provided by and is copyrighted to R.R. Colucci.

Photos

Photos of conference events are taken by Marco Gani, ARPA FVG. Mainly the plenary and poster sessions will be covered.

Local transportation information

From the airport

The closest airport is the "Trieste – Friuli Venezia Giulia Airport". The airport and the Trieste city centre are connected by bus no. 51, which starts twice per hour during the week and every one to two hours on weekends. The transport to Trieste takes about 1 hour and costs €4.05. Tickets are available at ticket machines and the tourist information centre at the airport. In the city centre, tickets are available at city coach stations (Monday to Friday). Buses stop at the Central Bus Station in Trieste, close to the central railway station.

Another option is the "Venice airport Marco Polo". Venice is well connected to Trieste by train (about 1.5-2 hours journey time).

From the central railway station

The Stazione Marittima Congress Centre Trieste is only about 1 km away from the central railway station of Trieste and can be reached on foot in around 10 minutes. Alternatively, bus no. 8 connects the train station and the congress centre.

Taxis are also available outside of the train station.

Wireless network access

Participants have free WiFi access in the conference centre. The network name and password is ems2016.

Registration & information desk

The registration & information desk is located in the Foyer of the conference centre.

Opening hours

Sunday, 11 September 2016
15:00–18:00

Monday – Thursday, 12–15 September 2016
08:00–18:00

Friday, 16 September 2016
08:00–10:00

Registration & abstract management

Copernicus Meetings
Bahnhofsallee 1e
37081 Göttingen, Germany
Phone: +49-551-900339-22
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/future-venues/sustainablemeetings>.

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.

EMS2016 app



Download the EMS2016 app for
iPhones and Android smartphones.

The EMS2016 app provides the complete programme, including all abstracts. You can synchronize your personal programme and the latest updates are always included. You have the option to contact authors of specific contributions directly via the app, to receive real-time communication from the organizer and use the built-in twitter interface for posting tweets. The EMS & ECAC hashtag is #emsecac2016.

Conference hours

Oral and poster sessions

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

Monday, 12 September 2016

Opening:	09:30–13:00
Oral block 3:	14:00–16:00
Oral block 4:	16:30–18:15
Poster session:	18:30–19:30
Icebreaker reception:	19:30–21:00

Tuesday, 13 September 2016

Oral block 1:	09:00–10:30
Oral block 2:	11:00–13:00
Poster session:	14:00–14:55
Award ceremony:	15:00–16:30
Oral block 4:	17:00–19:00

Wednesday, 14 September 2016

Oral block 1:	09:00–10:30
Oral block 2:	11:00–13:00
Poster session:	14:00–14:55
Oral block 3:	15:00–17:00
ECAC Symposium:	17:30–19:00

Thursday, 15 September 2016

Oral block 1:	09:00–10:30
Oral block 2:	11:00–13:00
Poster session:	14:00–14:55
Oral block 3:	15:00–17:00
Oral block 4:	17:30–19:00

Friday, 16 September 2016

Oral block 1:	09:00–10:30
Poster session:	10:30–11:30
Oral block 2:	11:30–13:00
Oral block 3:	14:00–16:00
Announcement of poster award recipient	16:15–17:00

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

1-minute espressi-talks (poster introductions)

Posters are located in the Foyer (Hall) and on the Gallery. Posters of the programme groups ASI and OBS are located on the Gallery (poster board numbers start with G), all other posters are located in the Foyer (poster board numbers start with H).

1-minute espressi-talks

For most sessions time for such 1-minute talks is foreseen either during the oral programme or at the start of the poster session; please check the programme of your session on the website, in the ems2016-app, or in the programme book for details and prepare one or two slides for this purpose. You may also be asked ad hoc by the session chair for a summary presentation in case a gap should occur in the oral programme.

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 days, and to take them down on Wednesday between 18:00–18:30 (display time: Monday to Wednesday) and on Friday between 16:30–17:00 (display time: Thursday to Friday). Posters that have not been removed within this dismantling time will be removed and disposed of.

Outstanding Poster Award

An Outstanding Poster Award will be given at the 16th EMS & 11th ECAC in Trieste.

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;
- Innovation in 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
- Marie Doutriaux Boucher, EUMETSAT
- Tomas Halenka, Czech Republic
- Ewen McCallum, UK (chair)
- Arturo Pucillo, Italy

Award

The author(s) will receive a certificate, one registration fee waiver for the EMS Annual Meeting 2017 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, 16 September 2016, 16:15, in the Foyer.

The award winning poster 2015 is on display in the Foyer and at the back of this programme book.

1-minute espressi-talks and author-in-attendance times

Monday, 12 September 2016	1-minute espressi-talks			Author-in-attendance	
SE1/CE8: Creating CS through partnerships	During oral session	18:00	Saturnia	18:30–19:30	
OBS1: Atmospheric measurements	During oral session	18:00	Vulcania 1		
AM4: Reducing Weather Risks to Transport	During oral session	17:30	Oceania C		
ASI1: Dynamical meteorology	During oral session	15:45	Vulcania 2		
ASI12: Phenology and agrometeorology	During oral session	16:30	Oceania C		
ASI16: WRF: Development and Applications	During oral session	15:45	Oceania C		
Tuesday, 13 September 2016	1-minute espressi-talks			Author-in-attendance	
MC1: Climate monitoring	During oral session	12:45	Vulcania 1	14:00–14:55	
UC2: Climate prediction & scenarios	During oral session	12:45	Saturnia		
UC4: The Cryosphere and its interactions	During oral session	10:15	Vulcania 2		
SE3/AM2: Severe weather impacts	During poster session	14:00	Saturnia		
ASI3: Parameterization of small scale processes	During poster session	14:00	Oceania AB		
ASI6/UC8: Mid-latitude atm. teleconnections	During poster session	14:00	Vulcania 2		
ASI8: Atmospheric hazards	During oral session	09:00	Oceania AB		
ASI9: BL physics and parameterizations in models	During poster session	14:00	Oceania AB		
CE1: Media & Communication	During oral session	12:45	Oceania C		
Wednesday, 14 September 2016	1-minute espressi-talks			Author-in-attendance	
UC6: Global and regional reanalyses	No espressi-talks scheduled			14:00–14:55	
UC7: Synoptic climatology	During oral session	10:15	Vulcania 1		
SE2: Copernicus Climate Change Service	During oral session	09:00	Oceania C		
AM1: High Impact Weather	During oral session	11:00	Oceania AB		
ASI7/CE10: Human Biometeorology	During oral session	09:00	Vulcania 2		
OBS3: Ground and space based GNSS	During poster session	14:00	Vulcania 2		
NWP1: Dynamics & pred. of high-impact weather	During poster session	14:00	Oceania AB		
Thursday, 15 September 2016	1-minute espressi-talks			Author-in-attendance	
MC2: Spatial Climatology	During oral session	12:30	Vulcania 1	14:00–14:55	
MC3: Paleoclimatology and historical climatology	No espressi-talks scheduled				
SE4: From predictions to impact forecasts	During oral session	09:00	Oceania AB		
ASI4: Coastal meteorology and oceanography	During oral session	16:45	Vulcania 2		
ASI5: Coupled atmosph.-wave-ocean processes	During oral session	12:15	Oceania AB		
ASI13: Energy Meteorology	During oral session	12:30	Saturnia		
ASI14: Atmospheric composition and pollution	During poster session	14:00	Vulcania 1		
CE6: Services supporting science education	No espressi-talks scheduled				
NWP2: Numerical aspects & physical param. Int.	During oral session	12:45	Oceania C		
NWP3: Data assimilation and use of observations	During oral session	09:00	Oceania C		
NWP4: Probabilistic and ensemble forecasting	During poster session	14:00	Oceania AB		
Friday, 16 September 2016	1-minute espressi-talks			Author-in-attendance	
UC1: CC detection, trends, variability & extremes	During oral session	10:00	Saturnia	10:30–11:30	
AM5/UC3: Climate forecast varification	During oral session	10:15	Vulcania 1		
AM6/NWP5: s2s predictions and applications	During oral session	10:15	Oceania AB		
AS10: Hydrometeorology	During oral session	10:00	Vulcania 2		
AS11: Urban Climate	During oral session	10:15	Vulcania 2		
OBS2: High-resolution precipitation monitoring	During oral session	10:15	Oceania C		
NWP7: MesoVICT	During oral session	10:15	Vulcania 1		

Refreshment breaks

Coffee breaks

Free coffee/tea will be served during the morning coffee breaks. In the afternoon, cold refreshments are provided. Catering stations are located close to the poster areas in the Foyer (Hall) and on the Gallery. Tuesday to Thursday espresso will be provided at the start of the poster sessions.

Monday, 12 September 2016

10:30–11:00 and 16:00–16:30

Tuesday, 13 September 2016

10:30–11:00 and 16:30–17:00 (sponsored by Harry Otten Foundation)

Wednesday, 14 September 2016

10:30–11:00 and 17:00–17:30

Thursday, 15 September 2016

10:30–11:00 and 17:00–17:30

Friday, 16 September 2016

10:30–11:30

Lunch

Monday–Friday, 13:00–14:00

Cafes, restaurants and supermarkets are available within walking distance.

Icebreaker reception

Location: Conference Foyer

Date: Monday, 12 September 2016, 19:30–21:00

Weather briefings:

Location: Small foyer room Saturnia

Dates and times: Monday to Friday, 10:40
(during coffee break)

Closing reception & announcement poster award winner

Location: Conference Foyer

Date: Friday, 16 September 2016, 16:15–17:00

Publications

Paper publication in *Advances in Science and Research*

Authors of contributions that have been accepted to one of the EMS & ECAC 2016 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.

Conference committees

Programme and Science Committee (PSC)

Chair: Sylvain Joffre (EMS Committee on Meetings)

Ingeborg Auer (EUMETNET Climate Programme)

Ekaterina Batchvarova (Bulgarian Met. Soc., NIMH)

Frank Beyrich (DWD, Germany)

Sandro Carniel (ISMAR-CNR, Venice, Italy)

Tanja Cegnar (Slovenian Environment Agency)

Renato R. Colucci (UMFVG, ISMAR-CNR, Trieste, Italy)

Marie Doutriaux Boucher (EUMETSAT)

Filippo Giorgi (ICTP, Italy)

Silvio Gualdi (CMCC, Italy)

Renate Hagedorn (EMS, Committee on Meetings)

Paul Halton (Irish Meteorological Society)

Tim Hewson (ECMWF)

André Jol (EEA)

Martina Junge (EMS)

Andrea Kaiser-Weiss (DWD, Germany)

Haleh Kootval (WMO)

Will Lang (MetOffice, United Kingdom)

Pierre-Philippe Matthieu (ESA)

Ewen McCullum (EMS Committee on Meetings)

Andrea Montani (ARPA, Italy)

Robert Mureau (PRIMET)

Gert-Jan Steeneveld (EMS Committee on Meetings)

Fulvio Stel (UMFVG, Italy)

Saskia Willemse (EMS Committee on Meetings)

Programme Group Chairs

European Conference on Applied Climatology (ECAC):

Ingeborg Auer

Applications of Meteorology (AM):

Will Lang

The Atmospheric System and its Interactions (ASI):

Renate Hagedorn

Communication and Education (CE):

Tanja Cegnar

Measurements and Observations (OBS):

Frank Beyrich

Numerical Weather Prediction (NWP):

Andrea Montani

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 2017

Authors of contributions that have been accepted to one of the EMS & ECAC 2016 session topics are invited to submit short conference papers. Details will be sent to the authors by email after the conference.

EXCURSION

METEO-MARINE EXCURSION AROUND THE GULF OF TRIESTE

In connection with the EMS & ECAC, the Marine Science Institute of the National Research Council of Italy, and the Unione Meteorologica del Friuli Venezia Giulia, local sponsors and supporters, have organized a FREE excursion by boat around the Gulf of Trieste. The main goal is to visit two meteo-marine stations named PALOMA (ISMAR-CNR) and MAMBO (OGS). Explanations about scientific research and instrumental facilities on both sites will be given on-board by local researchers belonging to ISMAR and OGS.

Besides the scientific interest of the short trip, this will be an amazing chance to admire the city of Trieste from the sea and enjoy the beautiful view of Miramare Castle and the Trieste downtown seafront at sunset.

The excursion is planned for Tuesday 13 September, departing from the EMS venue of Stazione Marittima at 18:00 and returning at 20:30. Check-in will start at 17:30.

In case of very bad sea conditions, the excursion may be cancelled. Such a decision is completely at the discretion of the boat captain.

Date: Tuesday, 13 September 2016

Place of departure: Stazione Marittima

Boarding: starts at 17:30; latest boarding time is 17:50; boarding is only possible with a "ticket".

Duration: the excursion will run from 18:00 to 20:30.

Registration

Registration is absolutely necessary, and will be handled on a first-come first-serve basis.

Maximum number of participants: 140

First-come, first-serve

To register

- send an e-mail to excursion-2016@emetsoc.org, with the following information: name and surname;
- pick up the "ticket" at the registration desk in the conference centre no later than Tuesday, 13 September 2016, 12:00!

All tickets that have not been picked up at the registration desk by Tuesday, 13 September 2016, 12:00 will be given to those on the waiting list.

Waiting list: once 140 places for the excursion are reserved, we will open a waiting list to fill places becoming available due to any cancellations.



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):

ECMWF Copernicus

Shinfield Park
Reading RG2 9AX
United Kingdom

<http://www.ecmwf.int>

Copernicus, the European Union's flagship for climate and atmospheric analysis: At our exhibition stand we provide an overview of how Copernicus is equipping society, policy-makers and industry to mitigate climate threats, adapt to change and capitalise on opportunities.

ECMWF/Copernicus

ECMWF/Copernicus is kindly sponsoring the conference.



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. Our new RaZON+, all-in-one solar monitoring station, provides solar irradiance data accurately, simply and affordably.

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 kindly sponsored by Scintec.

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United Kingdom



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OPENING SESSION

MONDAY, 12 SEPTEMBER 2016

Room Saturnia

09:30–10:30 Opening ceremony

Opening by the EMS President and Welcome Addresses

Renato R. Colucci	UMFVG President
Ingeborg Auer	Climate Programme
Roberto di Piazza	Mayor of Trieste
Debora Serracchiani (invited)	President of Friuli Venezia Giulia
Luca Marchesi	General Director of ARPA FVG
Fabio Trincardi	Director of Marine Science Institute – CNR
Bernardo De Bernardinis	Director of ISPRA
Maria Cristina Pedicchio	President of OGS
Dennis Schulze	PRIMET

10:30–11:00 Coffee Break

11:00–13:00 Strategic Lectures

Chair: Horst Böttger, EMS President

Petteri Taalas	Secretary-General of the World Meteorological Organization
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More people, more value, more weather and climate extremes: challenges and solutions for strengthening coastal resilience

Barbara Stenni	Universita Ca' Foscari, Venezia
Antarctic ice core climate records: a lesson from the past	

Filippo Giorgi	Abdus Salam International Centre for Theoretical Physics, Trieste
<i>Challenges and prospects in regional climate projections</i>	

Fred Carr	President of the American Meteorological Society
<i>Analysis, Prediction and Observing Systems Experiments for an Urban Testbed in Dallas/Ft. Worth, Texas</i>	

ECAC SYMPOSIUM

CLIMATE CHANGE – ADAPTATION AND MITIGATION: THE ROLE OF CLIMATE SCIENCE AND SERVICES

WEDNESDAY, 14 SEPTEMBER 2016, 17:30–19:00

The Paris climate agreement, adopted in December 2015, is the first-ever universal, legally binding global climate deal.

The agreement sets out an action plan to keep global temperature rise well below 2°C and to consider limiting the increase even further to 1.5°C above pre-industrial levels. The agreement aims to substantially reduce global greenhouse emissions and accelerate and intensify actions and investments needed for a sustainable low carbon society. The agreement also aims to

strengthen the ability of countries to adapt to the impacts of climate change.

At this event distinguished scientists and other experts will discuss how researchers, meteorological institutes and related organizations can contribute towards such a low carbon society and develop actions to adapt to the unavoidable impacts of climate change. There will be an opportunity for EMS & ECAC participants to participate actively in the debate.

Questions and issues that will be discussed by and with the panel include issues such as the following:

- How will the COP21 Paris agreement and its objectives influence actions in Europe, considering already agreed upon EU policies and actions?
- Which mitigation and adaptation options are feasible?
- How to deal with uncertainty in climate change projections, when planning for adaptation.
- Examples of good practice in mitigation, adaptation and their synergies.
- How can science and climate services provide support?
- What is the role of meteorological institutes and related organizations and how can they contribute?

PROGRAMME

Chairs and Moderators:

Tanja Cegnar
André Jol

Slovenian Environment Agency
European Environment Agency

Opening by Inge Auer

Introductory statements

10-minute introductory statements will be given by invited speakers from different organizations and areas of expertise.

Antonio Navarra
Peter Höppe

JPI Climate Governing Board, President of the CMCC
Munich Re, Head Geo Risiko Forschung/Corporate Climate Centre

name tbd
Selvaraju Ramasamy

CO2GeoNet
Climate and Environment Division, Food and Agriculture Organisation

Panel discussion

Questions and contributions from the audience

19:00 Closing

AWARDS SESSION

TUESDAY, 13 SEPTEMBER 2016

Room Saturnia

15:00–16:30

AWARD CEREMONIES

YOUNG SCIENTIST TRAVEL AWARDS

2015 POSTER AWARD

EMS YOUNG SCIENTIST AWARD

EMS MEDIA AWARDS

EMS TECHNOLOGY ACHIEVEMENT AWARD

EMS TROMP AWARDS

2017 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 2015 are Julian Tödter and Bodo Ahrens, Goethe University, Frankfurt, Germany, with the poster 'Ensemble-based Soil Initialization for Seasonal-to-Decadal Predictions'. The poster is on display in the foyer and printed at the back of this programme book. The winner of the award 2016 will be announced on Friday 16 September 2016, 16:15.

The **EMS Young Scientist Award** is presented annually to acknowledge excellence in young scientists. The awardee 2016 is Giovanni Tumolo from the Abdus Salam International Centre for Theoretical Physics (ICTP) in Trieste. He is awarded for significant contributions to the field of numerical weather prediction, developing a new accurate, efficient, unified numerical framework, permitting a seamless approach from global to high resolution limited-area modelling. Giovanni will give a Young Scientist Award Lecture on Thursday, 11:30h in Session NWP2. See page 75.

The **EMS Media Awards** include the Outreach and Communication Award – given in recognition of projects that explore new and effective ways to communicate the science of meteorology, the Broadcast Meteorologist Award that recognizes life achievement and the Journalist Award that aims to highlight outstanding professional work that explains the science to the public. For details on the media awardees see page 14.

The **EMS Technology Achievement Award** is given for the first time in 2016. It is established to recognise achievements that are influential on developments of technologies and technical solutions in meteorology and related areas, have advanced the methods and technologies of environmental observing and forecasting systems and demonstrated the potential to impact on the field at the European scale. MARS, the Meteorological Archival and Retrieval System developed at the European Centre for Medium-Range Weather Forecasts, and the Distributed "real-time" Environmental Measuring System developed at the Slovenian Environment Agency were selected to receive the Awards this year. For more details see page 15.

The **EMS Tromp Award** honours outstanding achievement in biometeorology. The recipient 2016 is Barbara Templ, Hungary. She will give a presentation on her work on **Monday, 12 September 2016, 18:15, Room Oceania AB**. Six **EMS Tromp Young Scientist Travel Awards** for young scientists in the area of biometeorology are also given. For more details see page 16.

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. For details on the call for the 2017 Prize see page 17.

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 2016 is awarded to Michel Jarraud for significant scientific contributions to the establishment of spectral methods in numerical weather prediction, his leading role in developing the World Meteorological Organization into the recognized authority about weather, climate and water within the United Nations system, and his part in the development of several major initiatives, in particular the launching of the Global Framework for Climate Services. The **Laudation** is given by Ivan Čačić. More details see page 18.

Young Scientist Award

The EMS Young Scientist Award 2016 is awarded to Giovanni Tumolo from the Abdus Salam International Centre for



Theoretical Physics (ICTP) in Trieste, Italy, for his publication: "A semi-implicit, semi-Lagrangian discontinuous Galerkin framework for adaptive numerical weather prediction", G. Tumolo, L. Bonaventura, Q.J.R. Meteorol. Society 141: 2582-2601, Oct 2015, A doi: 10.1002/qj.2544.

Citation: Giovanni Tumolo contributed significantly to the field of numerical weather prediction, developing a new accurate, efficient, unified numerical framework, permitting a seamless approach from global to high resolution limited-area modeling.

Giovanni will give a Young Scientist Award Lecture on his recent work in session NWP2 Numerical aspects and physical parametrization integration in NWP models: A p-adaptive approach for high order numerical weather prediction, on Thursday 15 September 2016, at 11:30 in room Oceania C.

Young Scientist Travel Awards

Olga Antokhina et al.

EMS2016-11:

The impact of atmospheric blocking in Western Siberia on the methane emissions in summer



Thursday, 15 September 2016, Author-in-attendance time: 14:00–14:55

Poster number G38 (Gallery), Session ASI14

See page 87.



Lukáš Dolák et al.

EMS2016-32:

Hydrometeorological extremes and their impacts in the Jihlava region (Czech Republic) in the 1651–1880 period

Thursday, 15 September 2016, Author-in-attendance time: 14:00–14:55

Poster number H12 (Hall), Session MC3

See page 84.

Jianting Du et al.

EMS2016-28:

Roughness length for coastal waters from wave boundary layer model



Thursday, 15 September 2016, 16:15–16:30

Session ASI13, room: Saturnia

See page 77.



Jorge Lopez Parages et al.

EMS2016-39:

ENSO influence on the North Atlantic European climate: a non-linear and non-stationary approach

Tuesday, 13 September 2016, 12:15–12:30

Session: ASI6/UC8, room: Vulcania 2

See page 42.

Gabriella Zsebeházi

EMS2016-36:

Sensitivity of the SURFEX land surface model to forcing settings in urban climate modelling



Friday, 16 September 2016, 12:00–12:15

Session ASI11, room: Vulcania 2

See page 95.

EMS MEDIA AWARDS

As **Stéphane Foucart** was not able to attend the Awards ceremony in September 2015 in Sofia, The **EMS Journalist Award 2015** is handed over to him this year. 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 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 Tuesday, 13 September 2016.

The **EMS Outreach & Communication Award 2016** is presented to the **Science Park of the Austrian Central Institute for Meteorology and Geodynamics (ZAMG)** for its success in providing a sophisticated educational experience, its breadth of appeal to a wide target group ranging from small children and students to scholars and interested citizens, and its instructive presentation of the science using interactive tools aimed at increasing interest and awareness for a subject of importance to society. The project is designed as a long-term endeavour, and is already being expanded to additional locations across the country.

The main aim of the new Science Park of ZAMG is to offer a state-of the-art science communication in the areas of weather, climate, environment and geophysics at ZAMG's headquarters in Vienna and at the Customer Service Offices (Salzburg, Innsbruck, Klagenfurt, Graz).

The objectives of the concept include

- To address people of all ages, who visit the ZAMG with guided tours, or during special events;
- To motivate visitors to participate in ZAMG's science projects that have a Citizen Science approach (e.g. severe weather, phenology and climate, change, reports of earthquakes, etc.);
- To encourage to reflect and discuss the connections between science and everyone's life and the possibilities of interacting;
- To intertwine the official measurement sites and the route of the guided tours.

Thomas Wostal, Press officer of ZAMG and centrally involved in the development of the concept of the Science Park and its implementation, will present the project and talk about future plans during the Media & Communication Session on Tuesday, 13 September 2016.

The **EMS Broadcast Meteorologist Award** is presented to Lieutenant Colonel **Guido Guidi** of the Italian Air Force Weather Service. Guido Guidi presents weather forecasts on the national TV stations RAI1 and RAI2. Throughout his career as TV weather forecaster he has always proved deep commitment paired with extremely high communication skills. He also has a relevant long working history and experience as weather forecaster for several weather services such as NATO, the Italian Antarctic Survey, the Operational Center for Meteorology as well as the Civil protection.

Lieutenant Colonel Guido Guidi will talk about his experience as a weather forecaster in the Media Session on Tuesday, 13 September 2016.

EMS TECHNOLOGY ACHIEVEMENT AWARD

The **EMS Technology Achievement Award** was launched in 2015 and is given for the first time this year. The first awarded projects are **MARS**, the **Meteorological Archival and Retrieval System** developed at the European Centre for Medium-Range Weather Forecasts, and the **Distributed “real-time” Environmental Measuring System** developed at the Slovenian Environment Agency.

MARS, chiefly developed by Baudouin Raoult and Manuel Fuentes together with other members of the MARS-team over the years, is recognised for a unique approach to meteorological data storage and retrieval technology. The Meteorological Archival and Retrieval System is the main repository of meteorological data at ECMWF containing petabytes of operational and research data. MARS has had and continues to have a huge impact on developments in many organisations by making vast quantities of meteorological data accessible to thousands of organisations and individuals.

The main achievement associated with MARS is that this system has stood the test of time as a result of continuous development. More than thirty years after it was created, MARS remains at the cutting edge of meteorological data storage and retrieval, with a user base that extends well beyond ECMWF to other centres and the wider meteorological and climatological community.

The Distributed “real-time” Environmental Measuring System, developed under the guidance of Bojan Černič, is recognised for an innovative concept of automatic stations implemented as a state of the art measuring system. This open-source Linux based distributed “real-time” Environmental Measuring System enables a higher degree of maintenance, flexibility, portability, modularity and diagnostics. It will have an impact for many years to come. Key features of the new network are distributed “real-

time” data acquisition over various channels, interval data processing, local archiving, customisable data reporting and data dissemination, visualisation and alert services, full control of the network, remote software validation, optimization and upgrading, modular large-scale sensors integration, provided measurement traceability with meta data support, traceable software and documentation management, remote installation and removal of software and supported low power design.

The aim of this new **EMS Technology Achievement Award** is to recognise achievements that are influential on developments of technologies and technical solutions in meteorology and related areas, have advanced the methods and technologies of environmental observing and forecasting systems and demonstrated the potential to impact on the field at the European scale. The award is normally given annually. A call for nominations is issued in autumn each year and the award presented at the EMS Annual Meeting in the following year. The Award is given in the form of a certificate.

The Awards 2016 are presented at the Awards Session on Tuesday, 13 September 2016. Baudouin Raoult will give a presentation in session **UC6 Global and regional reanalyses** on Wednesday, 14 September 2016, at 15:00h: “MARS: successfully serving meteorological data for 30 years”. Bojan Černič will give a presentation on “Distributed ‘real-time’ Environmental Measuring System in Slovenia” on Tuesday, 13 September 2016 at 9:45 in Session **OBS1 Atmospheric measurements from the local to the regional scale: Concepts, new technologies and scientific progress**.

EMS TROMP AWARD AND EMS TROMP YSTAS

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 been established and is given for the second time this year. The EMS Tromp Award 2016 winner is Barbara Templ from Eötvös Loránd University, Hungary, nominated with the paper: *Flowering phenological changes in relation to climate change in Hungary*, B. Szabó, E. Vincze, B. Czúcz, 2016, published in the International Journal of Biometeorology.

The awardee will receive \$US 1,000 and travel expenses to attend the EMS Annual Meeting. The awardee will give a presentation on Monday, 12 September 2016 at 18:15 in Session ASI12 Phenology and Agrometeorology.

EMS Tromp Young Scientist Travel Awards

The Tromp Foundation also funds six EMS Tromp Young Scientist Travel Awards for papers that are presented at the EMS & ECAC specifically on topics in biometeorology. The following recipients have been selected:

- **Jana Fischereit**, presenting Assessing uncertainties for the calculation of perceived temperature in an urban environment: on Wednesday, 9:30 in Session ASI7/CE10 Human Biometeorology
- **Mikhail I. Varentsov**, presenting Investigation of detailed spatial structure of the Moscow megacity climate features to the newest meteorological observations and regional climate modelling with connection to human comfort: on Friday at 10:30 in Poster session ASI11 Urban Climate, Poster number G14, on the gallery.
- **Pavel Konstantinov**, presenting Urban Heat Island's intensity research of Arctic city during winter and its influence on inhabitants' thermal comfort: on Friday at 11:45 in session ASI11 Urban Climate
- **Burak Öztaner**, presenting Estimation of Crop Production Loss due to Ozone over Europe by CMAQ Model: on Monday at 17:30 in session ASI12 Phenology and agrometeorology
- **Spyridon Paparrizos**, presenting Present and future responses of growing degree days for Crete island in Greece: on Monday at 17:45 in session ASI12 Phenology and agrometeorology
- **Ajda Valher**, presenting Crop water balance variability: on Monday at 17:15 in session ASI12 Phenology and agrometeorology

Solco W. Tromp Foundation

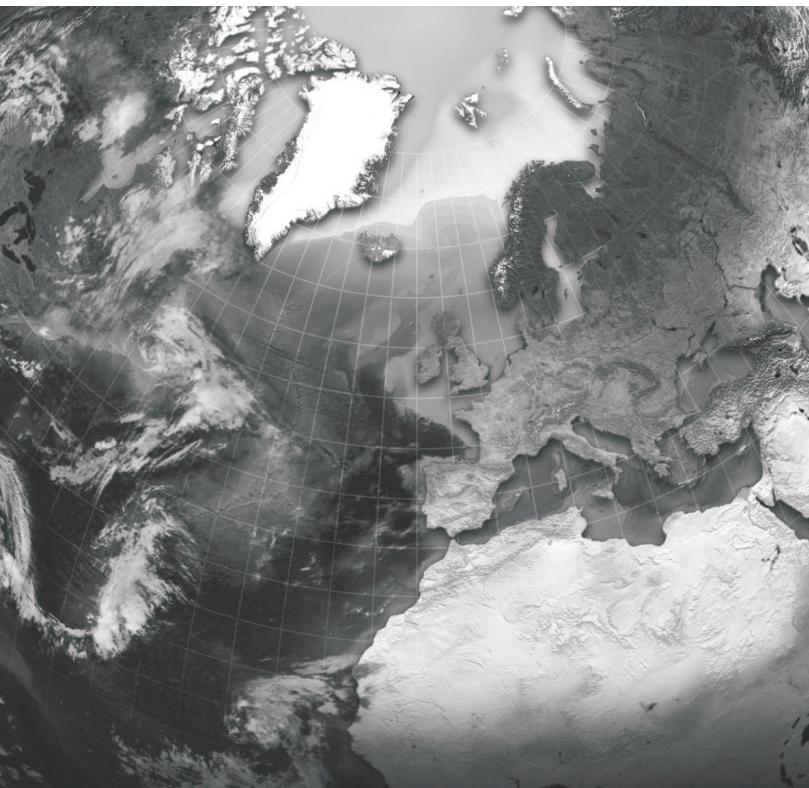
The

Harry Otten Prize

for Innovation in Meteorology

25000 Euro

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 prize encourages individuals and small groups (maximum of 3 individuals) to propose new ideas of how meteorology in a practical way can further move society forward.

The prize will be awarded during the meeting of the European Meteorological Society (EMS) in Dublin (Ireland) 5 September 2017.

Ideas for the prize may be submitted from **15 September 2016** until the closing date of **10 March 2017**.

Harry Otten was the founder of MeteoGroup, a successful company providing meteorological services. He expressed his gratitude to the meteorological community by creating an endowment that supports the prize.

The endowment is governed by an independent board. The members of the board also form the jury that awards the prize.

EMS SILVER MEDAL LECTURE 2016

PRESTIGIOUS AWARD FOR SIGNIFICANT SCIENTIFIC CONTRIBUTIONS TO THE ESTABLISHMENT OF SPECTRAL METHODS IN NUMERICAL WEATHER PREDICTION, PIVOTAL ROLE IN LAUNCHING OF THE GLOBAL FRAMEWORK FOR CLIMATE SERVICES.

The European Meteorological Society has chosen Michel Jarraud as Laureate of the EMS Silver Medal 2016. He is honoured for significant scientific contributions to the establishment of spectral methods in numerical weather prediction, his leading role in developing the World Meteorological Organization into the recognized authority about weather, climate and water within the United Nations system, and his part in the development of several major initiatives, in particular the launching of the Global Framework for Climate Services.

The Laureate will give a Silver Medal Lecture: "Meteorology and 21st century challenges".

Michel Jarraud undoubtedly made outstanding contributions in support of the worldwide meteorological community and beyond: His capabilities and achievements, ranging from science to management and successfully combining them, were instrumental for the introduction of modern forecasting methods at Météo-France and ECMWF.

Michel Jarraud is an outstanding researcher and internationally recognized expert in spectral methods. His work in the early days of ECMWF was instrumental in the selection of this method for the ECMWF model. As director of forecasting at Météo-France and as Head of Operations at ECMWF he focused his attention on reinforcing the links between the research and operation departments, in order to ensure a smooth and efficient transfer of research developments into the operational forecasting system.

His utmost legacy will be the accomplishment to turn WMO into the reference UN institution not only concerned with weather, but in addition also with hydrology and climate, which culminated in the establishment of the Global Framework for Climate Services (GFCS). As WMO Secretary General he has immensely contributed to strengthening the effectiveness of UN voices in water, disasters and climate issues.

Laudation

The laudation will be given by Ivan Čačić, Croatia.

Ivan Čačić is the President of the Regional Association VI (Europe) of the World Meteorological Organization and "ex officio" member of the WMO Executive Council; he is also the Permanent Representative of Croatia with the WMO.

Ivan Čačić is also a Member of the WMO – PWS Expert Team and PWS Coordination Team, and also of the Croatian Journalists' Association, dedicated to improve communication of the meteorological community to the public.

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 the late Karin Labitzke (Germany), René Morin (France), Lennart Bengtsson (Sweden/Germany), David Burridge (United Kingdom), the late Jean-François Geleyn (France/Czech Republic), Tim Palmer (United Kingdom), Hartmut Graßl (Germany), Peter Lynch (Ireland) and Anton Eliassen (Norway).

UMFVG VIDEO CONTEST

THE PECULIAR WEATHER OF TRIESTE AND ITS SURROUNDINGS – WATCH THE VIDEOS

In connection with the EMS & ECAC, the UMFVG, the local host EMS Member Society, has organised a video contest for original short films on the subject: "The meteorological and climatic peculiarities of Trieste, the North Adriatic Coast and the Karst Plateau."

The main aim of the contest is to promote the exchange and sharing among meteorology and climatology enthusiasts of different creative methods for interpreting the relation between atmospheric elements and the environment and to increase the knowledge of this territory and its climatic peculiarities.

The first three prizes are 500€ (first place), 250€ (second place) and 100€ (third place).

The winning entries have been selected; the prizes will be presented to the three winners during The EMS Festa on Thursday, but entry videos are shown during the EMS & ECAC week in the small foyer of the Saturnia room (when you pass the hall way to the lecture rooms Oceania and Vulcania). Enjoy them and learn about the weather peculiarities of the Trieste area.

Video interviews

During the conference there will be a camera team conducting very short interviews with participants asking for your experiences with the conference: What is it that attracts you to attend the conference? What is your favourite thing about the EMS Annual Meeting? What would you say to young researchers why they should attend this conference? What do you expect from this conference?

We would be delighted to hear your views.

TRIESTE SCIENCE CAFÉS

In connection with the EMS & ECAC Science Cafés will be organised. Science Cafés are traditional institutions for the public of Trieste: speakers from the conference will give talks in a café, and this event is open to anyone interested. The talks will be given in Italian.

Venue:

"Caffè Tommaseo"
Piazza Nicolò Tommaseo, 4c
34121 Trieste, Italy

Tuesday, 18:30 – 19:30

"Biometeorology and diseases, what evolution in a changing climate?"

Tanja Cegnar, Agency for Environmental Protection of Slovenia, and Adrian Tompkins, International Center for Theoretical Physics in Trieste

Thursday, 18:30 – 19:30

"Climate change and air pollution: two faces of the same medal?"

Silvio Gualdi, Euromediterranean Center for Climate Change, and Fulvio Stel, Regional Agency for Environmental Protection of Friuli

Side meetings

Monday, 12 September 2016

SIM1: Fourth European Communications Workshop for NMHSs (by invitation only) (part I)

Contacts: Michael Williams and Tanja Cegnar
14:00–18:15 (continues on Tuesday)
Room: Marconi

Tuesday, 13 September 2016

SIM5: Conveners GENERAL ASSEMBLY

Contact: Martina Junge
13:00–14:00
Room: Vulcania 2

SIM1: Fourth European Communications Workshop for NMHSs (by invitation only) (part II)

Contacts: Michael Williams and Tanja Cegnar
14:00–16:30
Room: Marconi

Wednesday, 09 September 2015

SIM4: Programme and Science Committee 2017 (by invitation only)

Contact: Martina Junge
13:00–14:00
Room: Marconi

SIM3: IABM Annual General Meeting

Contact: Gerald Fleming
17:30–19:00
Room: Vulcania 2

SIM6: UERRA planning meeting (by invitation only)

Contact: Per Unden
17:30–19:00
Room: Marconi

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TRAINING WORKSHOPS

INTRODUCTION TO THE WEATHER RESEARCH AND FORECASTING (WRF) MODEL

Training Workshop, 11 September 2016, Trieste

Gert-Jan Steeneveld
Hugo Hartmann
Peter Kalverla

Wageningen Univ.
MeteoGroup
Wageningen Univ.

The WRF model is a popular open source mesoscale meteorological model that is widely used in forecasting, education, academic and applied atmospheric research. The model is rather flexible in setup concerning model domain, resolution, and physical parameterization schemes. This makes the model excellent for both theoretical as well as applied studies across a range of spatial and temporal scales in meteorology and climate. At the same time this requires user knowledge on the do's and don'ts when working with the model. We offer this new workshop to PhD students, atmospheric researchers and scientists, as well as consultants.

BASIC DATA ASSIMILATION CONCEPTS

Workshop, 11 September 2016, Trieste

Roland Potthast

DWD (Research and Development, Head Division Data Assimilation)

The workshop will provide an introduction to data assimilation concepts, methods and techniques for forecasters and meteorologists.

To calculate weather forecasts on short or longer temporal scales, measurement data need to be fused into a coherent estimate of the current state of the atmosphere. These techniques are also of growing importance for nowcasting, and they are an important ingredient for climate monitoring and to calibrate climate projections. When measurements are integrated into model states, we usually speak of data assimilation.

The workshop provides a basic introduction to the ideas, set-up, properties, techniques and results which are behind data assimilation and data fusion. Its goal is to enable forecasters and users to understand the role of measurements, the capabilities and limitations of assimilation, and to gain insight into the whole NWP system which consists of a data assimilation cycle and forecast runs. A particular focus will be placed on the determination of uncertainty and risk within the analysis and forecast, which is a key goal of modern ensemble data assimilation systems.



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OBS4	oral programme page 29	

Numerical Weather Prediction (NWP)

NWP1	oral programme page 65	poster programme page 68
NWP2	oral programme page 75, 78	poster programme page 88
NWP3	oral programme page 72, 75	poster programme page 89
NWP4	oral programme page 78, 82	poster programme page 90
NWP7	oral programme page 96	poster programme page 104

	Monday, 12 September 2016					
09:00–10:30	Opening Session I Room Saturnia Opening by the EMS President and Welcome Addresses see also page 10					09:00–10:30
10:30	Coffee Break					10:30
11:00–13:00	Strategic Lectures I Room Saturnia see also page 10					11:00–13:00
12:00	Exhibition opens					12:00
13:00	Lunch Break					13:00
Room	Saturnia	Vulcania 1	Oceania AB	Oceania C	Vulcania 2	Room
14:00–16:00	SE1/CE8: Creating national and regional climate services in Europe through partnerships	OBS4: Manufacturers' session <i>until 14:45</i> OBS1: Atmospheric Measurements from the local to the regional scale	ASI2: Meteorology, climate and space weather	ASI16: The Weather Research and Forecasting Model (WRF): Development, Research and Applications	ASI1: Dynamical Meteorology	14:00–16:00
16:00	Coffee Break					16:00
16:30–18:15	SE1/CE8	OBS1	ASI12: Phenology & agrometeorology	AM4: Reducing Weather Risks to Transport: air, sea and land	ASI1	16:30–18:15
18:30–19:30	Poster Session HALL: Poster boards H1-H78 SE1/CE8 AM4 GALLERY: Poster boards G1-G56 ASI1 – ASI2 – ASI12 – ASI16 OBS1					18:30–19:30
19:30	Ice breaker in exhibition & Poster area: Foyer Hall					19:30

In the detailed daily programme (on pages 26 to 36) sessions are listed chronologically, according to the time for the oral presentations (14:00–16:00, 16:30–18:15). Within each time block sessions are listed in the following order: ECAC (MC – UC – SE), AM, ASI, OBS.

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 18:00–18:30. Posters that have not been removed within this dismantling time will be removed and disposed of.

Side meetings

Side meetings and workshops take place in room Marconi. For details see page 20.



EUMETSAT **METEOROLOGICAL SATELLITE** CONFERENCE 2017

The EUMETSAT Meteorological Satellite Conference has been a key annual event for the meteorological community since the organisation's inception in 1986.

The 2017 EUMETSAT Meteorological Satellite Conference will be held at the stunning Cinecittà film studios in Rome, Italy, and hosted and co-organised by ITAF-ReMET (*Italian Air Force-Department of Meteorology*).

Sessions will cover such topics as current and future satellite programmes and instruments, marine meteorology and oceanography, scientific achievements and future objectives for satellite climate observations, to name but some.

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 PLEASE CONTACT:

Conference-organisation@eumetsat.int

Abstract submission deadline is 31 January 2017



**ROME. ITALY.
2-6 OCTOBER 2017.**



Monday, 14:00–16:00

SE1/CE8 Creating national and regional climate services in Europe through partnerships

Lecture room: Saturnia

Conveners: Clare Goodess; Carlo Buontempo
Co-Conveners: Tomas Halenka; Tanja Cegnar;
 Francisco J. Doblas-Reyes; Chris Hewitt; Filipe Lúcio

14:00–14:15: EMS2016-326

Outstanding challenges limiting the development of climate services in Europe
 Carlo Buontempo, Marta Bruno Soares, **Felicity Liggins**
 Met Office, Exeter, United Kingdom
 (felicity.liggins@metoffice.gov.uk)

14:15–14:30: EMS2016-623

Prototype development of user specific climate services
Daniela Jacob, Irene Fischer-Bruns, Juliane Petersen,
 Peer Seipold, Claas Teichmann
 Climate Service Center Germany (GERICS), Helmholtz-Zentrum Geesthacht, Hamburg, Germany
 (daniela.jacob@hzg.de)

14:30–14:45: EMS2016-700

The National Center for Climate Services in Switzerland
 Jacqueline Flückiger Knutti, **Cornelia Schwierz**,
 Andreas Fischer, Mischa Croci-Maspeli, Erika Kienast,
 Christof Appenzeller
 Federal Office of Meteorology and Climatology,
 MeteoSwiss, Zurich, Switzerland

14:45–15:00: EMS2016-298

Assesment of user needs for climate change scenarios in Switzerland
Andreas Fischer, Mark Liniger, Jacqueline Flückiger Knutti
 Federal Office of Meteorology and Climatology
 MeteoSwiss, Climate Division, Zurich-Airport,
 Switzerland (andreas.fischer@meteoswiss.ch)

15:00–15:15: EMS2016-588

Quantitative Information on Extreme Precipitation - a new Climate Service for Switzerland
Sophie Fukutome, Anne Schindler, Thomas Schlegel, Rebecca Hiller, Valérie Fazan, Barbara Naegeli, Mischa Croci-Maspeli, Cornelia Schwierz
 MeteoSwiss, Zurich, Switzerland
 (sophie.fukutome@meteoswiss.ch)

15:15–15:30: EMS2016-694

Klima 2050: a research-based innovation centre for risk reduction through climate adaptation of infrastructure and buildings
 Berit Time, Tore Kvande, **Hans Olav Hygen**
 Norwegian Meteorological Institute, Oslo, Norway
 (hans.olav.hygen@met.no)

15:30–15:45: EMS2016-509

Providing climate information for local authorities
Hans Olav Hygen, Hege Hisdal, Inger Hanssen-Bauer
 Norwegian Meteorological Institute, Oslo, Norway
 (hans.olav.hygen@met.no)

15:45–16:00: EMS2016-460

Developing a stakeholder tool to assess impacts and adaptation options for Mediterranean islands' agriculture through climate and crop modeling
Christos Giannakopoulos, Marco Moriondo, Anna Karali, Christina Papadaskalopoulou, Camilla Dibari, Vassiliki Assimakopoulos, Giannis Lemesios, Lorenzo Brilli, Konstantinos V. Varotsos
 National Observatory of Athens, Institute for Environmental Research and Sustainable Development, Athens, Greece (cgiannak@meteo.noa.gr)

ORAL PROGRAMME SE1/CE8 CONTINUES ON MONDAY, 16:30

ASI1 Dynamical meteorology

Lecture room: Vulcana 2

Convener: Thomas Frisia
Co-Conveners: Frank Lunkeit; Alessandro Dell'Aquila; Christian Franzke

14:00–14:30: EMS2016-296

Synoptic view of latitudinal shifts in the North Atlantic eddy-driven jet stream (solicited)
Erica Madonna, Camille Li, Justin J. Wettstein
 Geophysical Institute, University of Bergen and Bjerknes Centre for Climate Research, Bergen, Norway
 (erica.madonna@uib.no)

14:30–15:00: EMS2016-105

Low-dimensional attractors for the North Atlantic atmospheric circulation (solicited)
Davide Faranda, Gabriele Messori, Pascal Yiou
 CNRS - CEA Saclay, Laboratoire de Science du Climat et de l'Environnement, Gif sur Yvette, France
 (davide.faranda@cea.fr)

15:00–15:15: EMS2016-85

Influence of atmospheric waves on the formation and the maintenance of the subtropical jet during the Northern Hemisphere winter
Yuhji Kuroda
 Meteorological Research Institute, Climate Research Department, Tsukuba, Japan (kuroda@mri-jma.go.jp)

15:15–15:30: EMS2016-290

Potential vorticity diagnostic to quantify effects of latent heating in midlatitude cyclones
Dominik Büeler, Stephan Pfahl
 ETH Zürich, Institute for Atmospheric and Climate Science, Switzerland (dominik.bueeler@env.ethz.ch)

15:30–15:45: EMS2016-123

The structure and development of an extratropical cyclone over the Northeastern Asia

Ying Liu, Donghai Wang

Chinese Academy of Meteorological Sciences

15:45–16:00:

1-minute espresso talks (poster introductions)

ORAL PROGRAMME ASI1 CONTINUES ON MONDAY, 16:30

ASI2 Meteorology, climate and space weather

Lecture room: Oceania AB

Convener: Mauro Messerotti

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

Chairperson: David R. Jackson

14:00–14:05:

Introduction (M. Messerotti) and 1-min poster presentation (59 Muthanna Al-Tameemi, Poster)

14:05–14:20: EMS2016-772

Meteorology and Space Weather as Coupled Frameworks

Mauro Messerotti

INAF-Astronomical Observatory of Trieste and Department of Physics, University of Trieste, Italy

14:20–14:40: EMS2016-54

Sol-Terra: A Roadmap for Operational Coupled Sun-to-Earth Space Weather Forecasting

David R. Jackson, Mike Marsh, Alastair Pidgeon, Gareth Lawrence, Simon Reid, Mario Bisi, Yulia Bogdanova, Mike Hapgood

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

14:40–15:00: EMS2016-53

Verification of solar flare forecasts at the UK Met Office Sophie Murray, Michael Sharpe, David Jackson, **Suzy Bingham**, Maria Kuznetsova, Leila Mays

Met Office, Exeter, UK

15:00–15:30: EMS2016-63

Solar irradiance variability (solicited)

Sami K. Solanki

Max Planck Institute for Solar System Research, Göttingen, Germany (solanki-office@mps.mpg.de)

15:30–15:50: EMS2016-69

The forecast of global values of precipitable water vapor And precipitation rate based on statistical model Of solar-terrestrial connections

Muthanna Al-Tameemi

Russian State Hydromet. Univ., Meteorological faculty, Experimental Physics of the Atmosph., St.Petersburg, Russian Federation (muthannaabd@yahoo.com), University of Al-Mustansyria, Baghdad, Iraq

END OF ORAL PROGRAMME ASI2

ASI16 The Weather Research and Forecasting Model (WRF): Development, Research and Applications

Lecture room: Oceania C

Convener: Gert-Jan Steeneveld

Co-Convener: Hugo Hartmann

Chairperson: Hugo Hartmann

14:00–14:15: EMS2016-512

Dynamical and statistical-dynamical modelling of wind farm flows with WRF

Patrick J. H. Volker, Jake Volker, Andrea N. Hahmann
Danish Technical University, Windenergy, Roskilde, Denmark (pvol@dtu.dk)

14:15–14:30: EMS2016-291

High-resolution urban weather forecasting for Amsterdam

Reinder Ronda, Jisk Attema, Gert-Jan Steeneveld, Bert Heusinkveld, **Bert Holtslag**

Wageningen University, Meteorology and Air Quality, Wageningen, Netherlands (Bert.Holtslag@wur.nl)

14:30–14:45: EMS2016-101

Simulations of hailstorms over Switzerland in a warmer climate, using a surrogated climate change approach

Andrey Martynov, Luca Nisi, Olivia Martius

University of Bern, Institute of Geography, Oeschger Centre for Climate Change Research, Bern, Switzerland (andrey.martynov@giub.unibe.ch)

14:45–15:00: EMS2016-6

Assessing the impact of Multiple Doppler Radar data assimilation using WRF-3DVAR on a Heavy Precipitation Event of the HyMeX campaign

Ida Maiello, Rossella Ferretti, Luca Baldini, Nicoletta Roberto, Errico Picciotti, Sabrina Gentile, Pier Paolo Alberoni, Frank Silvio Marzano

Centre of Excellence CETEMPS, Department of Physics and Chemistry - University of L'Aquila, Italy

15:00–15:15: EMS2016-353

Regional downscaling of the global analysis with a WRF model

Shamil Maksyutov, Radomir Zaripov

National Institute for Environmental Studies, CGER, Tsukuba, Japan (shamil@nies.go.jp)

15:15–15:30: EMS2016-389

WRF idealized-roughness response: PBL scheme and resolution dependence

Mark Kelly, Patrick J. H. Volker

Danish Tech.Univ., Risø Campus, DTU Wind Energy, Meteorology, Roskilde, Denmark (mkel@riso.dtu.dk)

15:30–15:45: EMS2016-655

An investigation of the Ora del Garda wind in the Alps from surface and airborne measurements and from high-resolution numerical simulations

Lorenzo Giovannini, Lavinia Laiti, **Dino Zardi**

Atmospheric Physics Group, Department of Civil, Environmental and Mechanical Engineering, University of Trento, Trento, Italy., National Consortium of Universities for Atmospheric and Hydropheric Physics (CINFAI), Rome, Italy.

15:45–16:00:

1-minute espresso talks (poster introductions)

END OF ORAL PROGRAMME ASI16

OBS4 Progress in measurement technology - new sensors, instruments, and systems (Manufacturers' session)

Lecture room: Vulcania 1

Convener: Fred C. Bosveld

Co-Convener: Frank Beyrich

Chairperson: Fred Bosveld

14:00–14:15: EMS2016-573

NubiScope - ten years of experience in ground based infrared cloud observation

Hans Moeller, Theo Sattler

Ing.-Büro für Mess- und Kalibriertechnik, Frankfurt/M, Germany (imkcal@t-online.de)

14:15–14:30: EMS2016-612

Towards Improved High-Resolution Image-Based Characterization of Hydrometers with Small Diameters

Martin Schwinzerl, Michael Schönhuber, Günter Lammer

JOANNEUM RESEARCH Forschungsges mbH, DIGITAL, Graz, Austria
(martin.schwinzerl@joanneum.at)

14:30–14:45: EMS2016-781

RaZON+, a novel solar monitoring system

Marc Korevaar, Ilja Staape, Joop Mees
Kipp & Zonen

END OF ORAL PROGRAMME OBS4

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

Lecture room: Vulcania 1

Convener: Frank Beyrich

Co-Convener: Fred C. Bosveld

Chairperson: Frank Beyrich

Observatories and long-term measurements

14:45–15:15: EMS2016-354

The GAW-WMO Regional Observatory of Lamezia Terme (Italy): environment and climate investigated in the Mediterranean hot-spot (solicited)

Claudia Roberta Calidonna, Ivano Ammoscato, Daniel Gulli, Teresa Lo Feudo, Elenio Avolio, Mariafrancesca De Pino, Paolo Cristofanelli, Angela Marinoni, Maurizio Busetto, Tony Christian Landi, Paolo Bonasoni
Institute of Atmospheric Science and Climate, C.N.R., Lamezia Terme (CZ), Italy (cr.calidonna@isac.cnr.it)

15:15–15:30: EMS2016-145

Metrological analysis of long-term surface fluxes, meteorological and soil measurements from comprehensive datasets characterizing 2 cropland sites: from experimental to operational instrumentation.

Aurore Brut, Tiphaine Tallec, Morgan Ferlicoq, Eric Ceschia, Bartosz Zawilski, Franck Granouillac
CESBIO, Université de Toulouse, CNES/CNRS/IRD/UPS, Toulouse, France

15:30–15:45: EMS2016-323

Hectometer-scale variability of atmospheric and surface variables and assessment of average values provided by satellites and numerical models

Gemma Simó, Daniel Martínez-Villagrassa, María Antònia Jiménez, Vicent García-Santos, Alvaro López, Rodrigo Picos, Vicente Caselles, **Joan Cuxart**
University of the Balearic Islands, Physics, Palma de Mallorca, Spain (joan.cuxart@uib.cat)

15:45–16:00: EMS2016-695

Atmospheric laboratories on the Tyrrhenian coastline

Stefania Argentini, Igor Petenko, Simone Bucci, Roberto Sozzi, Giangiuseppe Mastrandri, Alessandro Conidi, Giampietro Casasanta, Stefano Federico
Institute of Atmospheric Sciences and Climate, CNR, Roma, Italy

ORAL PROGRAMME OBS1 CONTINUES ON MONDAY, 16:30

Monday, 16:30–18:15

SE1/CE8 Creating national and regional climate services in Europe through partnerships

Lecture room: Saturnia

Conveners: Clare Goodess; Carlo Buontempo
Co-Conveners: Tomas Halenka; Tanja Cegnar; Francisco J. Doblas-Reyes; Chris Hewitt; Filipe Lúcio

16:30–16:45: EMS2016-758

The lessons learnt from EUPORIAS climate service prototypes
Carlo Buontempo and the EUPORIAS prototype Team
 Met Office, Exeter, UK, ECMWF, Reading, UK

16:45–17:00: EMS2016-456

Seasonal Water Balance Forecasts for Drought Early Warning in Ethiopia
Christoph Spirig, Jonas Bhend, Mark Liniger
 MeteoSwiss, Analysis and Forecasting, Zurich, Switzerland (christoph.spirig@meteoswiss.ch)

17:00–17:15: EMS2016-147

Evaluating the utilization of climate information products of the WMO RA VI RCC-network by NMHSs in the context of S2D climate service product development
Daniel Funk
 Deutscher Wetterdienst, Regional Climate Monitoring, Offenbach, Germany (daniel.funk@dwd.de)

17:15–17:30: EMS2016-99

Real Time Experiment of seasonal river flow forecast for dam management in France.
Christian Viel, Mathieu Papazzoni, Anne-Lise Beaulant, François Besson, Jean-Michel Soubeyroux, Fabienne Regimbeau
 Météo-France, Climatology, France (christian.viel@meteo.fr)

17:30–17:45: EMS2016-3

Trialling a seasonal climate service for UK transport stakeholders
Emilie Vanvyve, Edward Pope, Helen Hanlon, Erika J. Palin, Adam Scaife, Margaret Gordon, Jeff Knight, Emily Wallace, Alberto Arribas, Anca Brookshaw
 Met Office, FitzRoy Road, Exeter EX1 3PB, UK

17:45–18:00: EMS2016-476

Creating socio-economic benefit through climate services in the Andes - tailored seasonal forecasts for agriculture
Stefanie Gubler, Christoph Spirig, Katrin Sedlmeier, Jonas Bhend, Kris Correa, Yury Escajadillo, Carmen Reyes, Karim Quevedo, Grinia Avalas, Mark Liniger, Cornelia Schwierz
 MeteoSwiss, Zürich, Switzerland (stefanie.gubler@meteoswiss.ch)

18:00–18:15:

1-minute espressi talks (poster introductions)

END OF ORAL PROGRAMME SE1/CE8

AM4 Reducing Weather Risks to Transport: air, sea and land

Lecture room: Oceania C

Convener: Fraser Ralston

Co-Conveners: Thomas Hauf; Christine Le Bot

Chairperson: Fraser Ralston

16:30–16:45: EMS2016-50

Probabilistic forecasts of precipitation type for European airports based on multi-model ensemble
Jaakko Nuottokari
 Finnish Meteorological Institute, Customer Services, Helsinki, Finland (jaakko.nuottokari@fmi.fi)

16:45–17:00: EMS2016-154

MeteoRuta & MeteoNav: Interactive weather forecasting WEBGIS for roads and sport sailing in Spain
José A. Garcia-Moya, Jose I. Villarino, Jose Voces, Inmaculada Abia, Nieves Garrido, Eroteida Sanchez Spanish Agency of Meteorology. AEMET, Madrid, Spain

17:00–17:15: EMS2016-285

Short term alarm system for road weather
Ludovic Bouilloud, Odile Coudert
 Météo-France, Toulouse, France (ludovic.bouilloud@meteo.fr)

17:15–17:30: EMS2016-428

Spreading the right amount of salt in the right places at the right times: road ice prevention with the CLEAN-ROADS system
Claudia Di Napoli, Andrea Piazza, Ilaria Pretto, Guido Benedetti, Giacomo Merler, Elisa Mallochi, Gabriele Tonidandel, Roberto Cavalieri, Stefano Seppi, Roberto Apolloni, Cosimo Corrado, Thomas Tschurtschenthaler, Gianluca Antonacci, Ilaria Todeschini
 Meteotrentino Weather Service, Autonomous Province of Trento, Trento, Italy (claudia.dinapoli85@gmail.com)

17:30–17:45:

1-minute espressi talks (poster introductions)

END OF ORAL PROGRAMME AM4

ASI1 Dynamical meteorology

Lecture room: Vulcania 2

Convener: Thomas Frisius

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

16:30–16:45: EMS2016-91

Predictability of a vortex splitting type stratospheric sudden warming in January 2009

Hitoshi Mukougawa, Shunsuke Noguchi, Yuhji Kuroda, Ryo Mizuta, Shoukichi Yabu, Hiromasa Yoshimura

Disaster Prevention Research Institute, Kyoto University, Uji, Japan (mukou@dpac.dpri.kyoto-u.ac.jp)

16:45–17:00: EMS2016-226

Effect of the Atmospheric Heat Source on the Development and Eastward Movement of the Tibetan Plateau Vortices

Lun Li, Renhe Zhang, Min Wen
Chinese Academy of Meteorological Sciences, Beijing, China (lilun@cams.cma.cn)

17:00–17:15: EMS2016-118

Impact of Eurasian spring snow decrement on East Asian summer precipitation

Ruonan Zhang
China (zhangrn2010@126.com)

17:15–17:30: EMS2016-525

Use of conceptual models in explaining non-typical orographic weather

Elena Mirela Polifronie, Octavian Paul Bugeac, Sabina Stefan
University of Bucharest, Faculty of Physics, P.O.BOX MG-11, Magurele, Bucharest, Romania, National Meteorological Administration, Sos. Bucuresti-Ploiesti nr.97, Sector 1, ZIP Code 013686, Bucharest, Romania

17:30–17:45: EMS2016-653

Investigation of the diurnal wind system in the Alpine Adige Valley.

Lorenzo Giovannini, Lavinia Laiti, Stefano Serafin, **Dino Zardi**
Atmospheric Physics Group, Department of Civil, Environmental and Mechanical Engineering, Universitity of Trento, Trento, Italy (dino.zardi@unitn.it), National Consortium of Universities for Atmospheric and Hydropheric Physics (CINFAI), Rome, Italy.

17:45–18:00: EMS2016-329

Impact of sub-grid mixing on spontaneous organisation of convection

Addisu Gezahegn Semie, Adrian Mark Tompkins
Università Degli Studi di Trieste, Trieste, Italy, Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy

18:00–18:15: EMS2016-168

Height Tendency calculations for WRF model output by using a Generalized Omega Equation and the Zwack-Okossi tendency equation

Mika Rantanen, Jouni Räisänen, Heikki Järvinen, Juha Lento Department of Physics, University of Helsinki, Finland

END OF ORAL PROGRAMME ASI1

ASI12 Phenology and agrometeorology

Lecture room: Oceania AB

Convener: Elisabeth Koch

Co-Conveners: Josef Eitzinger; Federico Spanna

Chairperson: Elisabeth Koch

16:30–16:45: 1-minute espressi talks (poster introductions)

16:45–17:00: EMS2016-461

Crop water footprints under current and future climate conditions in Austria (solicited)

Josef Eitzinger, Sabina Thaler, **Anne Gobin**
Flemish Institute for Technological Research (VITO), Boeretang 200, 2400 Mol, Belgium

17:00–17:15: EMS2016-454

The use of ASCAT Surface Soil Moisture data in crop growth modelling

Sabina Thaler, Josef Eitzinger
Univ. of Natural Resources and Life Sciences, Institute of Meteorology, Vienna, Austria
(sabina.thaler@boku.ac.at)

17:15–17:30: EMS2016-22 (EMS Tromp YSTA)

Crop water balance variability

Ajda Valher
Slovenia (ajda.valher@gmail.com)

17:30–17:45: EMS2016-37 (EMS Tromp YSTA)

Estimation of Crop Production Loss due to Ozone over Europe by CMAQ Model

Yasar Burak Oztaner, Luca Pozzoli, Tayfun Kindap, Amir Hakami, Alper Unal
Istanbul Technical University, Eurasia Institute of Earth Science, Climate and Marine Science, Istanbul, Turkey (oztaner@itu.edu.tr, kindap@itu.edu.tr, alper.unal@itu.edu.tr)

17:45–18:00: EMS2016-7 (EMS Tromp YSTA)

Present and future responses of Growing Degree Days for Crete Island in Greece

Spyridon Paparrizos, Andreas Matzarakis
Faculty of Environment and Natural Resources, Albert-Ludwigs University of Freiburg, D-79085 Freiburg, Germany, email: spyridon.paparrizos@meteo.uni-freiburg.de

18:00–18:15: EMS2016-634

The WRF-ARW application in predicting meteorological conditions for Downy mildew (*Plasmopara viticola*) appearance of wine grape

Ana Firanj-Sremac, Branislava Lalic, Dragica Jankovic
Faculty of Sciences, University of Novi Sad, Novi Sad, Serbia (ana.firanj@gmail.com)

18:15–18:30:**EMS Tromp Award Lecture**

Flowering phenological changes in relation to climate change in Hungary

Barbara Templ
Hungary

END OF ORAL PROGRAMME ASI12

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

Lecture room: Vulcania 1

Convener: Frank Beyrich

Co-Convener: Fred C. Bosveld

Chairperson: Fred Bosveld

New Techniques**16:30–17:00: EMS2016-422**

Scanning lidars for atmospheric boundary-layer research (solicited)

Ebba Dellwik, Rogier Floors

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

17:00–17:15: EMS2016-619

Multicopter RPAS as a tool for ABL investigations

Burkhard Wrenger, Joan Cuxart, Gemma Simo, Jens Dünnermann

Ostwestfalen-Lippe University of Applied Sciences, Environmental Engineering and Computer Sciences, Hoexter, Germany

17:15–17:30: EMS2016-714

RPA-borne measurements of very weak stable and convective offshore boundary-layers over the North Sea

David Tupman, Andreas Platis, Alexander Rautenberg, Norman Wildmann

University of Tubingen, ZAG, Atmospheric Physics, Tubingen, Germany (david-james.tupman@uni-tuebingen.de)

17:30–17:45: EMS2016-350

Cloud cover estimation using all-sky images: state of the art algorithms, its results and applicability

Mikhail Krinitskiy

P.P.Shirshov Institute of Oceanology of the RAS, Sea Atmosphere Interaction And Climate Laboratory, Moscow, Russian Federation (krinitsky@sail.msk.ru)

17:45–18:00: EMS2016-683

Accurate measurements of upper-troposphere winds by watching contrails

Olivier Boucher, Jordi Badosa, Jean-Charles Dupont, Patrick Raberanto

Laboratoire de Météorologie Dynamique, CNRS/UPMC, Paris, France

18:00–18:15:**1-minute espresso talks (poster introductions)**

ORAL PROGRAMME OBS1 CONTINUES ON TUESDAY, 09:00

Posters Monday, 18:30–19:30

SE1/CE8 Creating national and regional climate services in Europe through partnerships

Conveners: Clare Goodess, Carlo Buontempo
Co-Conveners: Tomas Halenka, Tanja Cegnar, Francisco J. Doblas-Reyes, Chris Hewitt, Filipe Lúcio
Poster area: Hall
1-minute espressi-talks: 18:00, Saturnia

H50: EMS2016-77

Regional climate service for the Federal States of Germany
Sabrina Wehring, Andreas Walter, Christian Steger
Deutscher Wetterdienst, Offenbach, Germany
(sabrina.wehring@dwd.de)

H51: EMS2016-384

Climate Services for the River Rhine: focus on low flows
Christiana Photiadou, Gerard van der Schrier, Ge Verver
Royal Netherlands Meteorological Institute, De Bilt, Netherlands

H52: EMS2016-640

Communicating changes in frost days and the frost-free season in the Romanian Plain to support end-users decisions in agriculture
Constanta Boroneant, Mihaela Sima, Elena-Ana Popovici, Diana Dogaru
Romanian Academy, Institute of Geography, Bucharest, Romania (c.boroneant@gmail.com)

H53: EMS2016-706

An interoperable research data infrastructure to support climate services development
Tiziana De Filippis, Leandro Rocchi, Elena Rapisardi
CNR-IBIMET, IBIMET, Florence, Italy
(t.de.filippis@ibimet.cnr.it)

H54: EMS2016-748

Climate data for the national agricultural risk management scheme in Hungary
Zita Bihari, Mónika Lakatos, Tamás Szentimrey
Hungarian Meteorological Service, Budapest, Hungary (bihari.z@met.hu)

H55: EMS2016-523

"Climate in Norway 2100" - a national climate assessment for Norway
Inger Hanssen-Bauer, Hege Hisdal, Hans Olav Hygen, Stephanie Mayer
Norwegian Meteorological Institute, Climate Service Center, Oslo, Norway (i.hanssen-bauer@met.no)

H56: EMS2016-546

drought.ch - Swiss platform for early detection of drought
Luzi Bernhard, Madlaina Juvalta, Konrad Bogner, Massimiliano Zappa, Manfred Stähli
Research Institute WSL, Mountain Hydrology and Mass Movements, Birmensdorf, Switzerland (bernhard@wsl.ch)

H57: EMS2016-567

Deriving user-informed climate indices from climate model ensemble results
Heike Huebener
Hessian Agency for Nat.cons. Env. & Geol., Hessian Centre for Climate Change, Wiesbaden, Germany (heike.huebener@hlug.hessen.de)

END OF POSTER PROGRAMME SE1/CE8

AM4 Reducing Weather Risks to Transport: air, sea and land

Convener: Fraser Ralston
Co-Conveners: Thomas Hauf, Christine Le Bot
Poster area: Hall
1-minute espressi-talks: 17:30, Oceania C

Chairperson: Christine Le Bot

H69: EMS2016-295

Creating a Snow and Ice Hazard Impact Model
Rebecca Hemingway, Lucy Skinner
Met Office, Exeter, United Kingdom (rebecca.hemingway@metoffice.gov.uk)

H70: EMS2016-55

Basic climatology of fog at Croatian airports based on METAR reports
Marko Zoldoš, Miran Stojnić
Croatia Control Ltd., Zagreb, Croatia (marko.zoldos@crocontrol.hr)

H71: EMS2016-414

A Study on Fog Forecasting Methods through Data Mining Techniques in Jeju
Youngmi Lee, Joohyun Bae, Dabin Park
Eco Brain Co., Ltd., Jeju, Korea, Republic Of .

END OF POSTER PROGRAMME AM4

ASI1 Dynamical meteorology

Convener: Thomas Frisius

Co-Conveners: Frank Lunkeit, Alessandro Dell'Aquila, Christian Franzke

Poster area: Gallery

1-minute espressi-talks: 15:45, Vulcania 2

G1: EMS2016-633

Divergence of nearby trajectories approximated via autocovariance function and mutual information

Jan Skořepa

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

G2: EMS2016-665

The analysis of the Atlantic-European blockings
Márk Iván, Zsuzsanna Dezső, Judit Bartholy, Rita Pongrácz

Dept. of Meteorology Eötvös Loránd University, Budapest, Hungary (ivanmark90@gmail.com)

G3: EMS2016-18

Identification and tracking of Mediterranean cyclones that are engaged on trans-Balkan trajectories towards Romania by using objective methods

Catrina Oana, Kajsa Parding

University of Bucharest, Faculty of Physics, P.O.BOX MG - 11, Magurele, Bucharest, Romania, National Meteorological Administration, Sos. Bucuresti-Ploiești No. 97, Bucharest, Romania

G4: EMS2016-370

Effect of Earth's gravity anomalies on a moving cloud leading to precipitation

Dhananjay Mardhekar

Pune, India (dmardhekar@yahoo.co.in)

END OF POSTER PROGRAMME ASI1

ASI12 Phenology and agrometeorology

Convener: Elisabeth Koch

Co-Conveners: Josef Eitzinger, Federico Spanna

Poster area: Gallery

1-minute espressi-talks: 16:30, Oceania C

Chairperson: Elisabeth Koch

G31: EMS2016-16

The use of seasonal forecasts in agrometeorology: Smederevska Palanka 2012 case study

Aleksandra Krzic, Slavica Radovanovic, Miroslava Unkasevic
Republic Hydrometeorological Service of Serbia/SEEVCCC, Belgrade, Serbia
(aleksandra.krzic@hidmet.gov.rs)

G32: EMS2016-737

PEP725: real time monitoring of phenological events in Austria, Germany, Sweden and Switzerland

Markus Ungersböck, Kjell Bolmgren, Thomas Hübner, Frank Kaspar, Ola Langvall, Anita Paul, Barbara Pietragalla, Elisabeth Koch
ZAMG, Vienna, Austria
(markus.ungersboeck@zamg.ac.at)

G33: EMS2016-144

Operational irrigation forecasting service - example of collaboration between NHMS and regional agricultural advisory service

Gregor Gregorić, Andreja Sušnik
Slovenian Environment Agency, Ljubljana, Slovenia

END OF POSTER PROGRAMME ASI12

ASI16 The Weather Research and Forecasting Model (WRF): Development, Research and Applications

Convener: Gert-Jan Steeneveld

Co-Convener: Hugo Hartmann

Poster area: Gallery

1-minute espressi-talks: 15:45, Oceania C

Chairperson: Gert-Jan Steeneveld

G34: EMS2016-107

Moisture balance over the Iberian Peninsula computed using a high resolution regional climate model. The impact of 3DVAR data assimilation.

Santos J. González-Rojo, Jon Sáenz, Gabriel Ibarra-Breastegui

University of the Basque Country, Faculty of Science and Technology, Leioa, Spain

G35: EMS2016-331

Evaluation of the Weather Research and Forecasting model in the Durance Valley complex terrain during the KASCADE field campaign

Peter Kalverla, Gert-Jan Duine, **Gert-Jan Steeneveld**, Thierry Hedde

Wageningen University, Meteorology and Air Quality Section, Wageningen, Netherlands (gert-jan.steeneveld@wur.nl)

G37: EMS2016-437

Multi-scale numerical investigations with WRF about atmospheric features leading to flooding episodes over the central region of South-America

Marcelo Zamuriano, Stefan Brönnimann

Institute of Geography, University of Bern, Switzerland, Oeschger Centre for Climate Change Research, University of Bern, Switzerland (marcelo.zamuriano@giub.unibe.ch)

G38: EMS2016-585

The importance of reliable land use information for urban heat island modelling with the WRF model - a case study for Budapest

Júlia Göndöcs, Breuer Hajnalka, Rita Pongrácz, Judit Bartholy

Eötvös Loránd University, Budapest, Hungary (julia.gondocs@gmail.com)

G39: EMS2016-426

Exploring the formation and dissipation of radiation fog from observational data and numerical model results (WRF and HARMONIE)

Carlos Román-Cascón, Carlos Yagüe, Gema Morales, **Gert-Jan Steeneveld**, Irene Bartolomé, Mariano Sastre, Jon Ander Arrillaga, Gregorio Maqueda Meteorology and Air Quality Section, Wageningen University, The Netherlands

END OF POSTER PROGRAMME ASI16

OBS1 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: Gallery

1-minute espressi-talks: 18:00, Vulcania 1

G40: EMS2016-216

The Cabauw Experimental Site for Atmospheric Research (CESAR): New developments.

Fred C. Bosveld

KNMI, De Bilt, Netherlands (Fred.Bosveld@knmi.nl)

G41: EMS2016-321

Nocturnal fine structure of the temperature column between 2 and -0.1 m

Belén Martí, Daniel Martínez-Villagrassa, **Joan Cuxart**

University of the Balearic Islands, Physics, Palma de Mallorca, Spain (joan.cuxart@uib.cat)

G42: EMS2016-701

Comparison of Doppler Lidar Wind Measurements versus Tower and Sodar Data in the Lower Atmospheric Boundary Layer

Frank Beyrich, Carola Detring, Eileen Päschke, Udo Rummel

Deutscher Wetterdienst, Meteorologisches Observatorium Lindenberg, Tauche - OT Lindenberg, Germany (frank.beyrich@dwd.de)

G43: EMS2016-531

Recent developments of the wind- and turbulence measurement with the research UAV MASC

Alexander Rautenberg, Gerrit Anke Rau, Jens Bange Zentrum für Angewandte Geowissenschaften, Universität Tübingen, Tübingen, Germany (alexander.rautenberg@uni-tuebingen.de)

G44: EMS2016-142

Impact of eddy characteristics on the turbulent heat and momentum fluxes in the urban roughness sublayer

Zou Jun, Sun Jianning, Zhou Bowen

School of Atmospheric Sciences, Nanjing University, Nanjing, China (junzou.nju@163.com), Institute for Climate and Global Change Research, Nanjing University, Nanjing, China (jnsun@nju.edu.cn)

G45: EMS2016-488

Surface Energy Balance at Commercial and Apartment District over Urban in Seoul Metropolitan Area, Korea

Jung-Hoon Chae, Sung-Hwa Park, Moon-Soo Park Meteorological Observation Lab., WISE, Yongin, Korea, Republic Of (zhzhah79@gmail.com)

G46: EMS2016-223

New heated humidity sensor in the operational network of DWD

Simone Griesel

Deutscher Wetterdienst (DWD), Hamburg, Germany (simone.griesel@dwd.de)

G47: EMS2016-475

Performance comparison of Ground based Microwave Radiometer with Radiosonde

Yunyoung Song, Sung-Hwa Park, Moon-Soo Park,

Jung-Hoon Chae

Meteorological Observation Lab., WISE, Yongin, Korea, Republic Of (ssong9979@gmail.com)

G48: EMS2016-472

Comparison of field measurements, satellite data and parameterization of the surface incoming shortwave radiation in Atlantic Ocean

Alexey Sinitsyn, Sergey Gulev

P.P.Shirshov Institute of Oceanology, RAS, SAIL, Moscow, Russian Federation (sinitsyn@sail.msk.ru)

G49: EMS2016-550

Uncertainties in solar radiation ECMWF data at high latitude

Bilal Babar, Tobias Boström

Department of Physics and Technology, The University of Tromsø - The Arctic University of Norway, Tromsø, Norway (bilal.babar@uit.no)

G50: EMS2016-574

Stepwise implementation of siting classification on a high-resolution mesoscale meteorological network of automatic stations

Davide Dalla Libera, Roberto Grimaldelli, Mauro

Mussin, Maria Ranci, Chiara Rondanini, Marta Salvati,

Paolo Nicolosi

ARPA Lombardia, Meteorology, Milano, Italy

G51: EMS2016-545

Sea surface wind speed observations with SENTINEL-1 in coastal waters

Yuko Takeyama, Teruo Ohsawa, Susumu Shimada,

Katsutoshi Kozaï, Tetsuya Kogaki

AIST, Japan (takeyama.yuko@aist.go.jp)

G52: EMS2016-199

Climatology of Beam Propagation for Chinese Weather Radar Network

Hongyan Wang

Chinese Academy of Meteorological Science, Beijing, China (whyan@cams.cma.cn)

END OF POSTER PROGRAMME OBS1

Tuesday, 13 September 2016						
Room	Saturnia	Vulcania 1	Oceania AB	Oceania C	Vulcania 2	Room
09:00–10:30	UC2: Climate predictions & scenarios on decadal to centennial timescales OBS1 until 10:00 9:45 Lecture Technology Achievement Award MC1: Climate Monitoring	OBS1 until 10:00 9:45 Lecture Technology Achievement Award MC1: Climate Monitoring	ASI8: Atmospheric Hazards	CE1: Media & Communication	UC4: The Cryosphere and its interactions	09:00–10:30
10:30	Coffee Break					10:30
11:00–13:00	UC2	MC1	ASI9: Boundary-layer physics and parameterizations in weather and climate models	CE1	UC4 until 12:00 ASI6/UC8: mid-latitude atmospheric teleconnections	11:00–13:00
13:00	Lunch Break				General Assembly of Conveners	13:00
14:00–14:55	1-minute espressi-talks (poster intro) SE3/AM2 (Saturnia) HALL: Poster boards H1-H78 MC1 – UC2 – UC4 – SE3/AM2 CE1	Cafè (espresso) provided 14:00-14:30	1-minute espressi-talks (poster intro) ASI9 – ASI3 (Oceania AB) GALLERY: Poster boards G1-G56 ASI3 – ASI6/UC8 – ASI8 – ASI9 OBS1			14:00–16:30
15:00–16:30	Awards Session I Room Saturnia see also page 12					
16:30	Refreshment Break - sponsored by the Harry Otten Foundation					16:30
17:00–19:00	SE3/AM2: Severe weather impacts for the European society in the past, present and future	UC7: Synoptic climatology	ASI3: Formulation, validation and parameterization of small-scale processes in atmospheric modelling	SE6/CE9: Evaluation and quality assurance of climate services	ASI6/UC8	17:00–19:00

In the detailed daily programme (on pages 38 to 54) sessions are listed chronologically, according to the time for the oral presentations (09:00–10:30, 11:00–13:00, 15:00–16:30, and 17:00–19:00). Within each time block sessions are listed in the following order: ECAC (MC – UC – SE), ASI, CE, OBS.

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 18:00–18:30. Posters that have not been removed within this dismantling time will be removed and disposed of.

Side meetings

Side meetings and workshops take place in room Marconi. For details see page 20.

Tuesday, 09:00–10:30

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

Lecture room: Vulcania 1

Convenor: Frank Beyrich

Co-Convenor: Fred C. Bosveld

Chairperson: Frank Beyrich

Climate and Weather Observations

09:00–09:30: EMS2016-282

Metrology for climate observation (solicited)
Andrea Merlone, Graziano Coppa, Chiara Musacchio, Francesca Sanna, Carmen Garcia Izquierdo, Fernando Sparasci, Peter Thorne, Volker Ebert, Drago Groselj, Gaber Beges, Janko Drnovsek, Domen Hudoklin, Jovan Bojkovski, Antonio Castrillo, Angelo Viola, Vito Vitale, Guido Nigrelli, Marta Chiarle
Istituto Nazionale di Ricerca Metrologica, Torino, Italy

09:30–09:45: EMS2016-121

The Observational Analysis of A Tornado Associated with the Typhoon Mugigae
Zhaohui Li, Donghai Wang, Lijun Yan, Jianjun Zhu, Xuehu Mai
Foshan Meteorological Service, Foshan, Guangdong, China (lzh012333@163.com)

09:45–10:00:

Distributed Environmental Measuring System (EMS Technology Achievement Award 2016)
Bojan Černáč

END OF ORAL PROGRAMME OBS1; MC1 CONTINUES IMMEDIATELY WITH RELATED TOPICS

MC1 Climate monitoring; data rescue, management, quality and homogenization

Lecture room: Vulcania 1

Convenor: Manola Brunet-India

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

Chairperson: Dan Hollis

Quality Control

10:00–10:15: EMS2016-390

Quality Control techniques applied to surface data in ERA-CLIM2

Maria Antónia Valente, Pedro Gomes, Maria Clara Ventura, Maria João Rocha
Instituto Dom Luiz, Faculdade de Ciências da Universidade de Lisboa, Portugal (mavalente@fc.ul.pt)

Climate Data Management

10:15–10:30: EMS2016-228

New self-descriptive naming convention for climate data
Solfrid Agersten, Hanne Heiberg
Norwegian Meteorological Institute, Oslo, Norway (hanne.heiberg@met.no)

ORAL PROGRAMME MC1 CONTINUES ON TUESDAY, 11:00

UC2 Climate prediction and scenarios on decadal to centennial timescales

Lecture room: Saturnia

Convenor: Mark Liniger

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

Chairperson: Andreas Fischer

09:00–09:30: EMS2016-560

Med-CORDEX: a first coordinated inter-comparison of fully-coupled regional climate system models (RCSM) for the Mediterranean (solicited)

Erika Coppola and the Med-CORDEX Team
The Abdus Salam International Centre for Theoretical Physics, Earth System Physics Section, Trieste, Italy (coppolae@ictp.it)

09:30–09:45: EMS2016-112

Assessment of multiple daily precipitation statistics in ERA-Interim driven Med-CORDEX and EURO-CORDEX experiments against high resolution observations

Adriano Fantini, Francesca Raffaele, Csaba Torma, Sara Bacer, Erika Coppola, Filippo Giorgi, Bodo Ahrens, Clotilde Dubois, Enrique Sanchez, Marco Verdecchia

University of Trieste, Department of Mathematics and Geosciences, Trieste, Italy (afantini@ictp.it), The Abdus Salam International Centre for Theoretical Physics, Trieste, Italy

09:45–10:00: EMS2016-749

Regional downscaling of global climate simulations from CMIP5 with WRF: climate extremes in Europe

Viktoria Mohr, Kirsten Warrach-Sagi, Volker Wulfmeyer

Germany (viktoria.mohr@uni-hohenheim.de)

10:00–10:15: EMS2016-609

Coastal Impacts of Climate Change due to Waves forced by Storm Projections in Climate Models

Judith Wolf, Lucy Bricheno
National Oceanography Centre, Marine Systems Modeling, Liverpool, United Kingdom (jaw@noc.ac.uk)

10:15–10:30: EMS2016-755

How well is annual cycle of temperature and precipitation in Europe reproduced in CMIP5, EuroCORDEX and ENSEMBLES ensembles

Tomas Halenka, Michal Belda, Zuzana Klukova
Charles University in Prague, Fac. of Mathematics and Physics, Dept. of Atmospheric Physics, Prague, Czech Republic (tomas.halenka@mff.cuni.cz)

ORAL PROGRAMME UC2 CONTINUES ON TUESDAY, 11:00

UC4 The Cryosphere and its interactions with the climate system

Lecture room: Vulcania 2

Convener: Renato R. Colucci

Co-Convenors: Florence Colleoni; Barbara Stenni

Chairpersons: Renato R. Colucci and Barbara Stenni

Alpine cryosphere

09:00–09:15: EMS2016-577

Snowmelt and onset dates processed from 123 automatic meteorological stations at high elevation in the Swiss Alps

Geoffrey Klein, Yann Vitasse, Christoph Marty, Christian Rixen, Anna-Maria Tilg, Martine Rebetez
Institute of Geography, University of Neuchatel, Neuchatel, Switzerland (geoffrey.klein@unine.ch), WSL Swiss Federal Institute for Forest, Snow and Landscape Research, Neuchatel, Switzerland

09:15–09:30: EMS2016-741

Glacier albedo decrease in the Italian Alps and ice-albedo feedback

Davide Fugazza, Antonella Senese, Roberto Azzoni, Maurizio Maugeri, Carlo D'Agata, Davide Maragno, Guglielmina Diolaiuti

Department of Earth Sciences, Università degli studi di Milano, Italy

Antarctic cryosphere

09:30–09:45: EMS2016-126

Continuous observation of ice precipitation at Concordia Station (Antarctica) by means of an image scanner and a depolarization LIDAR

Massimo Del Guasta

Istituto Nazionale Ottica CNR, Sesto Fiorentino, Italy (massimo.delguasta@ino.it)

09:45–10:00: EMS2016-166

Preliminary results from the chemical analysis of GV7 ice core (East Antarctica)

Laura Caiazzo, Silvia Becagli, Fabio Giardi, Mirko Severi, Rita Traversi, Roberto Udisti
Dept. of Chemistry Ügo Schiff", Via della Lastruccia, 3, 50019 Sesto F.no (Florence), Italy (laura.caiazzo@unifi.it, silvia.becagli@unifi.it, fabio.giardi@unifi.it, mirko.severi@unifi.it, rita.traversi@unifi.it, roberto.udisti@unifi.it)

10:00–10:15: EMS2016-318

The isotopic composition of daily-collected precipitation samples at Dome C, East Antarctica

Giuliano Dreossi, Barbara Stenni, Virginia Ciardini, Massimo Del Guasta, Paolo Grigioni, Daniele Karlicek, Claudio Scarchilli
Ca' Foscari University of Venice, Venezia Mestre, Italy (iodio9@yahoo.it, barbara.stenni@unive.it)

10:15–10:30:

1-minute espressi talks (poster introductions)

ORAL PROGRAMME UC4 CONTINUES ON TUESDAY, 11:00

ASI8 Atmospheric hazards

Lecture room: Oceania AB

Convenor: Fulvio Stel

Co-Convenors: Dario Giaiotti; Sante Laviola; Jordi Mazon

Chairperson: Dario Giaiotti

09:00–09:15:
1-minute espresso talks (poster introductions)

09:15–09:30: EMS2016-256

Meteorological stations-based European climatological database for the identification of heat-waves.

Marco Morabito, Alfonso Crisci, Gianni Messeri, Alessandro Messeri, Simone Orlandini, Giampiero Maracchi

Institute of Biometeorology, National Research Council, Florence, Italy, Centre of Bioclimatology, University of Florence, Florence, Italy

09:30–09:45: EMS2016-373

Sensitivity Analysis on PBL Schemes of the WRF-ARW in simulating a tornado event at Skala, Lakonia, Peloponnese in September 2015

Markos Mylonas Dirdiris, Panagiotis T. Nastos, Ioannis T. Matsangouras
Laboratory of Climatology and Atmospheric Environment, Faculty of Geology and Geoenvironment, National and Kapodistrian University of Athens, Greece

09:45–10:00: EMS2016-15

Complex terrain influence on radar-based rainfall estimation

Cristian Craciun, Sorin Burcea
University of Bucharest, Faculty of Physics, P.O.BOX MG - 11, Magurele, Bucharest, Romania, National Meteorological Administration, Sos. Bucuresti-Ploiesti No. 97, Bucharest, Romania

10:00–10:15: EMS2016-156

Extreme precipitation events in the transitional area between Western and Central Europe and their comparison with flood extremes

Blanka Gvoždíková, Miloslav Müller
Charles University in Prague, Faculty of Science, Prague, Czech Republic (gvozdikb@natur.cuni.cz)

10:15–10:30: EMS2016-161

Flash floods as result of flow interactions in the atmospheric boundary layer over complex orography

Giaiotti Dario, Stel Fulvio, Gallai Irene, Goglio Annachiara, Ganesini Elena, Montanari Francesco ARPA FVG - CRMA, Regional Center for Environmental Modeling, Palmanova, Italy (dario.giaiotti@arpa.fvg.it)

END OF ORAL PROGRAMME ASI8

CE1 Media and Communication

Lecture room: Oceania C

Convenor: Tanja Cegnar

Chairperson: T. Cegnar

09:00–09:15: EMS2016-303

Validating Communication: An empirical test of strategies for communicating uncertainty in seasonal climate prediction

Andrea Taylor, Suraje Dessai

University of Leeds, Sustainability Research Institute, School for Earth and Environment, United Kingdom (a.l.taylor@leeds.ac.uk)

09:15–09:30: EMS2016-766

Assessment and communication of weather and climate related risks - a view from the insurance industry (solicited)

Peter Höppe

Head of Geo Risks Research/Corporate Climate Centre, Munich Re, Germany (PHoeppe@munichre.com)

09:30–09:45:

Communicating climate change adaptation through web-based platforms - The status quo in Europe, the main challenges and relevant lessons learned

Eleni Karali

Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC) (eleni.karali@cmcc.it)

09:45–10:00: EMS2016-709

The concept of the Eco conference

Tanja Cegnar

Slovenian Environment Agency, Meteorological Office, Ljubljana, Slovenia (tanja.cegnar@gov.si)

10:00–10:15:

Outreach and Communication Award 2016 - Science Park

10:15–10:30: EMS2016-761

Open data formats: how to communicate weather and climate to everyone

Klemen Blokar, Andrej Lajovic, Jure Varlec
Astronomical Society Vega - Ljubljana (klemen.blokars@ad-vega.si)

**ORAL PROGRAMME CE1 CONTINUES ON TUESDAY,
11:00**

Tuesday, 11:00–13:00

MC1 Climate monitoring; data rescue, management, quality and homogenization

Lecture room: Vulcania 1

Convener: Manola Brunet-India

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

Chairpersons: Dan Hollis and Inge Auer

Climate time-series homogenisation

11:00–11:15: EMS2016-109

Development of MASH procedure for homogenization of standard deviation

Tamás Szentimrey

Hungarian Meteorological Service, Budapest, Hungary
(szentimrey.t@met.hu)

11:15–11:30: EMS2016-273

Homogenization of ECA&D temperature series

Antonello A. Squintu, Gerard van der Schrier, Yuri Brugnara, Petr Štěpánek, Albert Klein Tank
Royal Netherlands Meteorological Institute (KNMI), De Bilt, Netherlands

11:30–11:45: EMS2016-325

Benchmarking homogenization computer packages:
First results of the MULTITEST project

José A. Guijarro, José A. López, Enric Aguilar, Peter Domonkos, Manola Brunet
AEMET (State Meteorological Agency), Spain

11:45–12:00: EMS2016-647

Daily homogenization in Norway

Elin Lundstad

Norwegian Meteorological Institute, Meteorology and Climate Department, Oslo, Norway (elinl@met.no)

Climate trends

12:00–12:15: EMS2016-44

Climate change and variability detection for the Mexican territory

Jose Antonio Salinas, María Eugenia Maya, Gabriela Colorado, Martín Montero
Mexican Institute of Water Technology, Hydrometeorology, Jiutepec, Mexico
(jsalinas@tlaloc.imta.mx)

12:15–12:30: EMS2016-75

Surface solar radiation variability and trends in Italy during the last 55 years and underlying causes

Veronica Manara, Michele Brunetti, Angela Celozzi, Maurizio Maugeri, Arturo Sanchez-Lorenzo, Martin Wild
Università degli Studi di Milano, Department of Physics, Milano, Italy (veronica.manara@unimi.it), ETH Zürich, Institute for Atmospheric and Climate Science, Zürich, Switzerland

12:30–12:45: EMS2016-238

Trends in solid, mixed and liquid precipitation in the changing climate of the Atlantic sector of the Arctic

Ewa Łupikasza, Katarzyna Cielecka

University of Silesia in Katowice, Faculty of Earth Science, Department of Climatology, Katowice, Poland, University of Silesia, Faculty of Earth Science, Centre for Polar Studies, Sosnowiec, Poland,
kcielecka@us.edu.pl, ewa.lupikasza@us.edu.pl

12:45–13:00:

1-minute espresso talks (poster introductions)

END OF ORAL PROGRAMME MC1

UC2 Climate prediction and scenarios on decadal to centennial timescales

Lecture room: Saturnia

Convener: Mark Liniger

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

Chairperson: Christoph Spirig

11:00–11:30: EMS2016-693

A user-targeted synthesis of the VALUE perfect predictor experiment (solicited)

Douglas Maraun, Martin Widmann, Jose Gutierrez, Sven Kotlarski, Elke Hertig, **Joanna Wibig**, Ole Rössler, Radan Huth
Department of Meteorology and Climatology, University of Lodz, Lodz, Poland

11:30–11:45: EMS2016-689

Do seasonal to decadal climate predictions underestimate the predictability of the real world?

Rosie Eade, Doug Smith, Adam Scaife, Emily Wallace, Nick Dunstone, Leon Hermanson, Niall Robinson
Met Office Hadley Centre, Exeter, UK
(rosie.eade@metoffice.gov.uk)

11:45–12:00: EMS2016-222

Climate change and projections for the Barents region

Rasmus Benestad, Kajsa Parding, Ketil Isaksen, Abdelkader Mezghani
Norwegian Meteorological Institute, Research and Development, Oslo, Norway
(rasmus.benestad@met.no)

12:00–12:15: EMS2016-429

On the coherence of quantile mapping effect on a regional and local scale climate scenario

Lorenzo Sangelantoni, Alessandro Coluccelli, Aniello Russo, Maurizio Di Marino, Fabio Gennaretti, Patrick Grenier
Università Politecnica delle Marche, Department of Life and Environmental Sciences, Via Brecce Bianche, 60131 Ancona, Italy, Osservatorio Geofisico Sperimentale, Viale dell'Indipendenza 180, 62100 Macerata, Italy

12:15–12:30: EMS2016-474

Bias corrected, high resolution climate scenarios for Austria

Barbara Chimani, Georg Heinrich, Stefan Kienberger, Armin Leuprecht, Michael Hofstätter, Annemarie Lexer, Markus Kerschbaumer, Manuela Salzmann, Marco Sebastian Poetsch, Raphael Spiekermann, Matthew Blaise Switanek, Heimo Truhetz Zentralanstalt für Meteorologie und Geodynamik, Klimaforschung, Wien, Austria (barbara.chimani@zamg.ac.at)

12:30–12:45: EMS2016-489

High-resolution climate projections for the Barcelona Metropolitan Area

Vicent Altava-Ortiz, **Antoni Barrera-Escoda**, Jèssica Amaro, Jordi Cunillera, Marc J. Prohom, Abdel Sairouni Meteorological Service of Catalonia, Barcelona, Spain (valtava@meteo.cat)

12:45–13:00:

1-minute espressi talks (poster introductions)

END OF ORAL PROGRAMME UC2**UC4 The Cryosphere and its interactions with the climate system**

Lecture room: Vulcania 2

Convener: Renato R. Colucci

Co-Conveners: Florence Colleoni; Barbara Stenni

Chairperson(s): Florence Colleoni

Modelling**11:00–11:15: EMS2016-608**

Assessing internal variability of climate variables as a driving force for ice sheet model simulations

Chii-Yun Tsai, Chris Forest, David Pollard
Department of Meteorology, Pennsylvania State University, University Park, PA, United States

11:15–11:30: EMS2016-348

One comparison in effects of Arctic sea ice loss and ENSO on winter haze days: observational analyses and AGCM simulations

Shuanglin Li, Zhe Han, Huopo Chen
Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, China, China University of Geosciences, Wuhan, China

11:30–11:45: EMS2016-527

Impact of the Southern Annular Mode on the basal melting under the ice shelves through the Plio/Pliocene transition

Florence Colleoni, Enea Montoli, Simona Masina, Annalisa Cherchi
Fondazione CMCC, Bologna, Italy

11:45–12:00: EMS2016-547

Modeling the post-LGM deglaciation of the Scandinavian-Barents Sea Ice Sheet; a model intercomparison approach

Michele Petrini, Nina Kirchner, Florence Colleoni, Angelo Camerlenghi, Michele Rebesco, Renata Lucchi, Riko Noormets, Emanuele Forte, Renato R. Colucci Department of Mathematics and Geoscience, Università di Trieste, Trieste, Italy

END OF ORAL PROGRAMME UC4**ASI6/UC8 Towards better understanding mid-latitude atmospheric teleconnections**

Lecture room: Vulcania 2

Convener: Javier Garcia-Serrano

Co-Conveners: Paolo Davini; Yannick Peings

Chairperson: J. Garcia-Serrano

Tropical-midlatitude teleconnections**12:00–12:15: EMS2016-102**

The ENSO teleconnection to Europe: tropospheric, stratospheric pathways and Atlantic air-sea interactions (solicited)

Ivana Herceg-Bulić, Bianca Mezzina, **Fred Kucharski**, Paolo Ruggieri, Martin P. King
Abdus Salam International Centre for Theoretical Physics, Earth System Physics Section, Trieste, Italy (kucharsk@ictp.it)

12:15–12:30: EMS2016-39 (EMS YSTA)

ENSO influence on the North Atlantic European climate: a non-linear and non-stationary approach

Jorge Lopez Parages, Belen Rodriguez-Fonseca, Dietmar Dommelget, Claudia Frauen
Dpto. di Scienze Ambientali, Informatica e Statistica, Ca' Foscari University, Campus scientifico via Torino, Venice, Italy (jorge.parages@unive.it)

12:30–12:45: EMS2016-636

Tropical-Extratropical teleconnections in present and future climate: sensitivity to model resolution and stochastic parameterizations.

Susanna Corti, Paolo Davini, Jost von Hardenberg
Institute of Atmospheric Sciences and Climate, National Research Council (ISAC-CNR), Bologna, Italy (s.corti@isac.cnr.it)

12:45–13:00: EMS2016-638

Do tropical sea surface temperatures affect polewards moisture transport and precipitation in the extra-tropics?

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

ORAL PROGRAMME ASI6/UC8 CONTINUES ON TUESDAY, 17:00

ASI9 Boundary-layer physics and parameterizations in weather and climate models

Lecture room: Oceania AB

Convener: Sergej Zilitinkevich
Co-Convener: Arakel Petrosyan

11:00–11:15: EMS2016-715

A "dirty" almost-neutral surface layer (solicited)
Francesco Tampieri, Mario Schiavon, Mauro Mazzola, Angelo Viola
 CNR ISAC, Bologna, Italy

11:15–11:30: EMS2016-731

Young and mature convective boundary layers in the atmosphere (solicited)
Sergej Zilitinkevich
 Finnish Meteorological Institute, Helsinki, Finland
 (sergej.zilitinkevich@fmi.fi), Division of Atmospheric Sciences, University of Helsinki, Finland, Department of Radiophysics, University of Nizhny Novgorod, Russia

11:30–11:45: EMS2016-440

Atmospheric boundary layer evolution and associated low-level baroclinicity during cold-air outbreaks in high latitudes

Dmitry Chechin, Christof Lüpkes
 Obukhov Institute of Atmospheric Physics RAS, Moscow, Russia (chechin@ifaran.ru)

11:45–12:00: EMS2016-526

Optimization of the Mellor-Yamada scheme in the meso-scale model WRF for offshore wind conditions based on measurements and large eddy simulations.
Hauke Wurps, Gerald Steinfeld, Detlev Heinemann ForWind, Carl von Ossietzky Universität, Oldenburg, Germany (hauke.wurps@forwind.de)

12:00–12:15: EMS2016-587

Modeling Convectively Induced Secondary Circulations (CISCs) in the Terra Incognita
Stefan Poll, Prabhakar Shrestha, Clemens Simmer Meteorological Institute, University of Bonn, Germany (*stefan.poll@uni-bonn.de)

12:15–12:30: EMS2016-642

Preliminary evaluation of the Turbulent Potential Energy "concept" in the ARPEGE model
Eric Bazile
 Météo-France CNRM, GMAP, Toulouse, France (eric.bazile@meteo.fr)

12:30–12:45: EMS2016-658

Thermally driven up-slope flows: state of the art and open questions.

Dino Zardi
 Atmospheric Physics Group, Department of Civil, Environmental and Mechanical Engineering, University of Trento, Trento, Italy., National Consortium of Universities for Atmospheric and Hydrospheric Physics (CINFAI), Rome, Italy.

12:45–13:00: EMS2016-669

Testing the turbulence scales theory on bora flows
Željko Večenaj, Danijel Belušić, Branko Grisogono University of Zagreb, Faculty of Science, Department of Geophysics, Zagreb, Croatia (zvecenaj@gfz.hr)

END OF ORAL PROGRAMME ASI9

CE1 Media and Communication

Lecture room: Oceania C

Convener: Tanja Cegnar

Chairperson: T. Cegnar

11:00–11:15:

Are TV weather forecasts becoming obsolete in the era of social media?
Jay Trobec
 KELO TV, USA (jay@trobect.net)

11:15–11:30: EMS2016-765

The Future of TV Weather Reports (solicited)
John Teather
 Larkhill Close, New Milton, Hampshire, BH25 5RN, United Kingdom (john@teather.org.uk)

11:30–11:45:

EMS Broadcast Meteorologist Award – Guido Guidi

11:45–12:00: EMS2016-194

Video "The voices of snow": meteorological and climatological divulgation in Friuli Venezia Giulia (Italy)
Sergio Nordio
 Agenzia Regionale per la Protezione dell'Ambiente del Friuli Venezia Giulia, s.o.c OSMER Osservatorio Meteorologico Regionale, PALMANOVA (Ud), Italy (sergio.nordio@meteo.fvg.it)

12:00–12:15:

EMS Journalist Award – Stéphane Foucart

12:15–12:30: EMS2016-627

Creating a Virtual Museum of Meteorology: Challenges and Perspectives
Panos Giannopoulos, Ioannis Poulios Hellenic National Meteorological Service, Athens, Greece (pgiannop1@yahoo.com)

12:30–12:45: EMS2016-505

The Tempest
Hans Olav Hygen, Morten Cranner, Reidun Ganstø Skaland Norwegian Meteorological Institute, Oslo, Norway (hans.olav.hygen@met.no)

12:45–13:00:

Short oral introduction of posters

END OF ORAL PROGRAMME CE1



EMS ANNUAL MEETING 2017

European Conference for
Applied Meteorology and Climatology



04-08 September 2017

Dublin, Ireland

SAVE THE DATES

03-07 Sep 2018: Budapest
09-13 Sep 2019: Copenhagen

Tuesday, 17:00–19:00

UC7 Synoptic climatology

Lecture room: Vulcania 1

Conveners: Radan Huth; Rasmus Benestad

Chairperson: Radan Huth

Cyclones and large-scale dynamics

17:00–17:30: EMS2016-723

On the drivers of Mediterranean migratory anticyclones genesis and evolution (solicited)

Maria Hatzaki, Helena A. Flocas, John Kouroutzoglou, Ian Simmonds
Sector of Geography and Climatology, Department of Geology and Geoenvironment, National and Kapodistrian University of Athens, Athens, Greece
(marhat@geol.uoa.gr)

17:30–17:45: EMS2016-30

Subtropical cyclones in future climate conditions over the northeastern Atlantic

Juan Jesús González-Alemán, Miguel Angel Gaertner, Enrique Sánchez, Raquel Romera
University of Castilla-La Mancha, Environmental Sciences Institute, Toledo, Spain
(juanjesus.gonzalez@uclm.es)

17:45–18:00: EMS2016-110

Low pressure and rainfall around Mongolia in summer

Keiji Kimura
Department of Geography, Nara University, Nara, Japan
(kimurak@daibutsu.nara-u.ac.jp)

18:00–18:15: EMS2016-270

The asymmetries of day-to-day temperature changes distribution

Vladimír Piskala, Radan Huth
Faculty of Science, Charles University in Prague, Czech Republic
(vladimir.piskala@natur.cuni.cz)

18:15–18:30: EMS2016-196

Synoptic Aspects of Predictability of the Wintertime Arctic Oscillation

Vladimir N. Kryjov, Young-Mi Min
APEC Climate Center, Climate Prediction, Busan, Korea, Republic Of
(kryjov@apcc21.org)

18:30–18:45: EMS2016-543

Synoptic mechanism of the formation of extreme surface turbulent heat fluxes in North Atlantic

Natalia Tilinina, Sergey Gulev
P. P. Shirshov Institute of Oceanology, Sea Air Interaction and Climate, Moscow, Russian Federation
(tilinina@sail.msk.ru)

18:45–19:00: EMS2016-604

Factors affecting atmospheric vertical motions as analyzed with a generalized omega equation and Open IFS model: a statistical study

Oleg Stepanyuk, Jouni Räisänen, Victoria Sinclair, Heikki Järvinen
Finland (oleg.stepanyuk@helsinki.fi)

ORAL PROGRAMME UC7 CONTINUES ON WEDNESDAY, 09:00

SE3/AM2 Severe weather impacts for the European society in the past, present and future

Lecture room: Saturnia

Convener: Antti Mäkelä

Co-Convener: Andrea Vajda

17:00–17:15: EMS2016-559

Future changes of severe thunderstorm frequency over Europe

Tomas Pucik, Pieter Groenemeijer, Lars Tijssen, Anja Westermayer
European Severe Storms Laboratory, Wessling, Germany (tomas.pucik@essl.org), Masaryk University, Faculty of Science, Brno, Czech Republic

17:15–17:30: EMS2016-492

Improving the end-user preparedness with severe weather impact-warnings in Finland

Antti Kokko, Ari-Juhani Punkka, Kristiina Säntti, Ilona Lång, Antti Mäkelä, Hilppa Gregow
Finnish Meteorological Institute, Helsinki, Finland
(antti.kokko@fmi.fi)

17:30–17:45: EMS2016-57

Florence 1966: how far ahead can we predict such extreme events with current, state-of-the-art ensembles?

Valerio Capecchi, Bernardo Gozzini, Simon Lang, Roberto Buizza
Institute of Biometeorology/CNR, Florence, Italy, Environmental Modelling and Monitoring Laboratory (LaMMA), Florence, Italy

17:45–18:00: EMS2016-132

Social sciences contribution on informed decision-making for mitigation of climate change impacts

Chiara Bianchizza
(bianchizza@isig.it)

18:00–18:15: EMS2016-712

The sensitivity of the crash rate of Finnish road traffic for bad weather circumstances

Adriaan Perrels, Athanasios Votsis, Karoliina Pilli-Sihvola, Väinö Nurmi
Finnish Meteorological Institute, Climate Services, Helsinki, Finland (Adriaan.Perrels@fmi.fi)

18:15–18:30: EMS2016-247

Probabilities of hazardous snow-related weather events in the present and projected future climate of Europe
Ilari Lehtonen, Matti Kämäräinen, Andrea Vajda, Hilppa Gregow
Finnish Meteorological Institute, Helsinki, Finland
(ilari.lehtonen@fmi.fi)

18:30–18:45: EMS2016-436

Public crowd-sensing of heat-waves by social media data
Valentina Grasso, Alfonso Crisci, Marco Morabito, Paolo Nesi, Gianni Pantaleo
CNR Ibimet, Italian National Research Council, Florence, Italy (v.grasso@ibimet.cnr.it), LaMMA Consortium, Italian National Research Council, Florence, Italy

18:45–19:00: EMS2016-720

Projection of extreme temperature conditions for the Carpathian region
Rita Pongrácz, Judit Bartholy, Karolina Szabóné André, Ildikó Pieczka, Judit Németh
Department of Meteorology, Eötvös Loránd University, Budapest, Hungary (prita@nimbus.elte.hu)

END OF ORAL PROGRAMME SE3/AM2

SE6/CE9 Evaluation and quality assurance of climate services - Methods, criteria and pitfalls

Lecture room: Oceania C

Convener: Insa Meinke

Co-Conveners: Irene Fischer-Bruns; Klaus Grosfeld

Chairpersons: Insa Meinke, Irene Fischer-Bruns, Klaus Gosfeld

17:00–17:15: EMS2016-150

Evaluating Co-Creation of Knowledge: Quality Criteria and Indicators
Susanne Schuck-Zöller, Jörg Cortekar, Irene Fischer-Bruns, Stefan Füters, Elke Keup-Thiel, Diana Rechid Helmholtz-Zentrum Geesthacht/HZG, Climate Service Center Germany, Geesthacht, Germany

17:15–17:30: EMS2016-433

Assessing the value of seasonal climate forecasts in decision-making
Marta Bruno Soares, Suraje Dessai
Sustainability Research Institute and the ESRC Centre for Climate Change Economics and Policy, School of Earth & Environment, University of Leeds, UK
(m.soares@leeds.ac.uk)

17:30–17:45: EMS2016-703

On different perspectives of measuring success of regional climate services - A case study in Northern Germany
Insa Meinke, Maria Schwab, Claus Winter
Helmholtz-Zentrum Geesthacht, Northern German Climate Office, Geesthacht, Germany
(insa.meinke@hzg.de)

17:45–18:00: EMS2016-738

Balancing the diversity and range of project content and general evaluation criteria
Renate Treffeisen, Klaus Grosfeld, Michael Beuthner, Rolf Teigler, Jan Borm, Peter Lemke, Marietta Weigelt Alfred-Wegener-Institut Helmholtz Zentrum für Polar- und Meeresforschung, Bremerhaven, Germany
(renate.treffeisen@awi.de)

18:00–18:15: EMS2016-41

Risk management perspective for climate service development - Results from a study on Finnish organizations
Riina Haavisto, **Atte Harjanne**, Heikki Tuomenvirta, Hilppa Gregow
Finnish Meteorological Institute, Helsinki, Finland, Aalto University School of Business, Helsinki, Finland

18:15–18:30: EMS2016-729

How to establish confidence into usage of climate data products?
Joerg Schulz
EUMETSAT, Darmstadt, Germany
(Joerg.Schulz@eumetsat.int)

18:30–18:45: EMS2016-733

Identifying and evaluating successful processes in knowledge transfer projects: first lessons
Gesche Krause, **Maximilian Felix Schupp**
Alfred Wegener Institute, Helmholtz Center for Polar and Marine Research, Bremerhaven, Germany
(maximilian.felix.schupp@awi.de)

18:45–19:00:

Discussion

END OF ORAL PROGRAMME SE6/CE9

ASI3 Formulation, validation and parameterization of small-scale processes in atmospheric modelling

Lecture room: Oceania AB

Convener: Gert-Jan Steeneveld

Co-Conveners: Bert Holtslag; Lisa Bengtsson

Chairperson: Bert Holtslag

17:00–17:30: EMS2016-283

The role of boundary-layer dynamics in the transition to a blue Arctic (solicited)

Richard Davy, Igor Esau

Nansen Environmental and Remote Sensing Center/Bjerknes Centre for Climate Research, Bergen, Norway (richard.davy@nerc.no).

17:30–17:45: EMS2016-334

Nocturnal surface thermal inversions in the Pannonian Basin

Joan Cuxart, Tamás Weidinger, Burkhard Wrenger, Blazenka Matjacic, Gemma Simó, Daniel Martínez-Villagrasa, Árpád Bordas, Ágoston Tordai, Peter Torma, Zoltan Nagy

University of the Balearic Islands, Physics, Palma de Mallorca, Spain (joan.cuxart@uib.cat)

17:45–18:00: EMS2016-165

Similarity scaling systems for stably stratified turbulent flows

Zbigniew Sorbian

Institute of Geophysics, Polish Academy of Sciences, Warsaw, Poland

18:00–18:15: EMS2016-576

Sensitivity tests of the roughness length for heat to the GABLS4 experiment

Patrick Le Moigne, Eric Bazile, Fleur Couvreux CNRM UMR3589, Météo-France/CNRS, TOULOUSE, France (patrick.lemoine@meteo.fr)

18:15–18:30: EMS2016-158

Validation of the broadband HLRADIA radiation scheme in the ALADIN-HIRLAM NWP system

Emily Gleeson, Laura Rontu, Kristian Pagh Nielsen, Ján Mašek, Velle Toll

Met Éireann, Glasnevin Hill, Dublin D09 Y921, Ireland (emily.gleeson@met.ie)

18:30–18:45: EMS2016-443

Sensitivity of extreme events to soil moisture-atmosphere interactions in the western Mediterranean

Sebastian Helgert, Samiro Khodayar Institute of Meteorology and Climate Research (IMK-TRO), Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany

END OF ORAL PROGRAMME ASI3

ASI6/UC8 Towards better understanding mid-latitude atmospheric teleconnections

Lecture room: Vulcania 2

Convener: Javier Garcia-Serrano

Co-Conveners: Paolo Davini; Yannick Peings

Chairperson: J. Garcia-Serrano

Extratropical teleconnections

17:00–17:30: EMS2016-335

Atlantic multi-decadal variability and the role of stratosphere-troposphere (solicited)

Noel Keenlyside, Nour-Eddine Omrani

University of Bergen, Geophysical Institute, Bergen, Norway (noel.keenlyside@gfi.uib.no), Nansen Environmental and Remote Sensing Center, Bergen, Norway, Bjerknes Centre for Climate Research, Bergen, Norway

17:30–17:45: EMS2016-757

The predictability of the multidecadal component of the Mediterranean SST variability.

Ortizbevia Maria, RuizdeElvira Antonio, Alvarez-Garcia Francisco J.

University of Alcalá, Physics, Alcalá, Spain (mjose.ortiz@uah.es)

17:45–18:00: EMS2016-688

Is the PDO predictable?

Rosie Eade, Doug Smith

Met Office Hadley Centre, Exeter, UK (rosie.eade@metoffice.gov.uk)

18:00–18:15: EMS2016-277

On the transient atmospheric response to an impulsive sea-ice forcing

Paolo Ruggieri, Fred Kucharski, Roberto Buizza,

Maarten H. P. Ambaum, Guido Visconti

Department of Physical and Chemical Sciences and CETEMPS, University of L'Aquila, L'Aquila, Italy (paolo.ruggieri@aquila.infn.it)

18:15–18:30: EMS2016-682

A multi-system view of wintertime NAO seasonal predictions

Panos Athanasiadis, Alessio Bellucci, Adam Scaife, Leon Hermanson, Stefano Materia, Antonella Sanna, Andrea Borrelli, Craig MacLachlan, Silvio Gualdi CMCC, Bologna, Italy.

18:30–18:45: EMS2016-662

Non-annular, hemispheric signature of the winter North Atlantic Oscillation

Javier Garcia-Serrano, Reindert J. Haarsma

Barcelona Supercomputing Center (BSC-CNS), Earth Sciences Dept., Barcelona, Spain (javier.garcia@bsc.es)

18:45–19:00: EMS2016-707

Climatology of lead-lag relationships of Northern Annular Mode during the cold seasons in the Northern Hemisphere.

Martin P. King, Javier Garcia-Serrano

Uni Research Climate, Bjerknes Centre, Bergen, Norway
(Martin.King@uni.no)

END OF ORAL PROGRAMME ASI6/UC8

Posters Tuesday, 14:00–14:55

MC1 Climate monitoring; data rescue, management, quality and homogenization

Convener: Manola Brunet-India

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

Poster area: Hall

1-minute espresso-talks: 12:45, Vulcania 1

Chairperson(s): Manola Brunet

Data Rescue

H1: EMS2016-243

Ongoing and future climate data rescue activities at the Meteorological Service of Catalonia

Marc J. Prohom, Mònica Herrero
Meteorological Service of Catalonia, Area of Climatology, Barcelona, Catalonia, Spain
(mprohom@meteo.cat)

Quality Control procedures

H2: EMS2016-220

Quality Control of the Belgian Historical Weather Data

Charles Delvaux, Michel Journée, Romain Ingels, Vladimir Vrabel, Cédric Bertrand
Royal Meteorological Institute of Belgium, Brussels, Belgium

Homogenisation approaches

H4: EMS2016-284

Number of days with various wind speed and inhomogeneities in such series

Pavel Zahradníček, Petr Štěpánek, Radim Tolasz, Jiří Hostýnek
Global Change Research Centre AS, v.v.i., Brno, Czech Republic, Czech Hydrometeorological Institute, Czech Republic

H5: EMS2016-327

Homogenization of daily series: Suitability of additive and multiplicative models and experiences with Climatol 3.0

José A. Guijarro
AEMET (State Meteorological Agency), Balearic Islands Office, Palma de Mallorca, Spain (jguijarro@aemet.es)

H6: EMS2016-417

A Fundamental Climate Data Record of SSM/I & SSMIS brightness temperatures

Karsten Fennig, Marc Schröder, Axel Andersson,
Thomas Spangehl
Deutscher Wetterdienst, Offenbach, Germany
(karsten.fennig@dwd.de)

H7: EMS2016-468

New developments in HISTALP

Barbara Chimani, Manfred Ganekind, Ingeborg Auer
Zentralanstalt für Meteorologie und Geodynamik, Klimaforschung, Wien, Austria
(barbara.chimani@zamg.ac.at)

H8: EMS2016-603

EUSTACE break-detection algorithm for a global air temperature dataset

Yuri Brugnara, Renate Auchmann, Stefan Brönnimann
Oeschger Centre, University of Bern, Bern, Switzerland
(yuri.brugnara@giub.unibe.ch)

H9: EMS2016-621

Co.Rain: a new semi-automatic procedure for a better assessment of parallel precipitation measurements networks

Fiorella Acquaotta, **Diego Guenzi**, Diego Garzena, Simona Fratianni
Università degli Studi di Torino, Scienze della Terra, Turin, Italy

H10: EMS2016-727

Using parallel measurements from German climate reference stations to analyze the homogeneity of time series

Lisa Hannak, Frank Kaspar, Florian Imbery
Deutscher Wetterdienst, National Climate Monitoring, Offenbach, Germany (Lisa.Hannak@dwd.de)

Data products

H11: EMS2016-74

A new database of ground-based cloudiness observations for Italy since the 19th century

Veronica Manara, Michele Brunetti, Maurizio Maugeri, Arturo Sanchez-Lorenzo, Martin Wild
Università degli Studi di Milano, Departement of physics, Milano, Italy (veronica.manara@unimi.it)

H12: EMS2016-309

New "big-data" sources for meteo-climatic community

Santiago Gaztelumendi, Jose Daniel Gomez de Segura
Meteoolgry Area (TECNALIA R&I), Basque Meteorology Agency (EUSKALMET)

H13: EMS2016-376

Gridded, high-resolution observational data sets for Southeast Asia and South America

Gerard van der Schrier, Else van den Besselaar, Richard Cornes, Ge Veraver, Albert Klein Tank
Royal Netherlands Meteorological Institute, De Bilt, Netherlands

H14: EMS2016-664

A satellite-based sunshine duration product for climate applications
 Steffen Kothe, Roswitha Cremer, **Uwe Pfeifroth**, Jörg Trentmann
 Deutscher Wetterdienst, Climate Monitoring, Offenbach, Germany (uwe.pfeifroth@dwd.de)

Climate trends**H15: EMS2016-95**

Global trends and variability in integrated water vapour from ground-based GPS data and atmospheric models
Olivier Bock, Ana Parracho, Sophie Bastin, Frederic Hourdin, Lidia Mellul
 IGN, LAREG, Univ Paris Diderot, Sorbonne Paris Cité, Paris, France (olivier.bock@ign.fr)

H16: EMS2016-232

Variability and climate change monitoring tools at the Meteorological Service of Catalonia
 Laura Barberia, Antoni Barrera-Escoda, Montserrat Busto, Jordi Cunillera, Mònica Herrero, Alba Llabrés, Anna Miró, Juan Carlos Peña, Anna Rius, Vicent Altava-Ortiz, **Marc J. Prohom**
 Meteorological Service of Catalonia, Area of Climatology, Barcelona, Catalonia, Spain (clima@meteo.cat)

H17: EMS2016-450

Climate change observed in Slovakia and its impact on changes in climate regions
Gabriela Ivaňáková, Pavol Faško, Lívia Labudová
 Slovak Hydrometeorological Institute, Bratislava, Slovakia

END OF POSTER PROGRAMME MC1

UC2 Climate prediction and scenarios on decadal to centennial timescales

Convener: Mark Liniger

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

Poster area: Hall

1-minute espresso-talks: 12:45, Saturnia

Chairperson: Mark Liniger

H18: EMS2016-17

High-resolution downscaling of ERA40 Reanalysis and CMCC-CM 21st century data with nonhydrostatic regional NMMB model
Aleksandra Krzic, Vladimir Djurdjevic
 Republic Hydrometeorological Service of Serbia/SEEVCCC, Belgrade, Serbia (aleksandra.krzic@hidmet.gov.rs)

H19: EMS2016-719

Comparing RegCM projections using RCP4.5 and RCP8.5 scenarios
Judit Bartholy, Rita Pongrácz, Ildikó Pieczka, Karolina Szabóné André
 Department of Meteorology, Eötvös Loránd University, Budapest, Hungary (bartholy@caesar.elte.hu)

H20: EMS2016-242

Preliminary exploration of relevant predictors usable by an empirical seasonal forecasting system for the Mediterranean region
Irene Mestre-Guillen, María J. Casado-Calle, Ernesto Rodriguez-Camino
 AEMET, Spain (imestreg@aemet.es)

H21: EMS2016-490

The CORDEX RCM ensembles in the European Alps: Patterns of 21st Century Climate Change
 Sven Kotlarski, Elias Zubler, Prisco Frei, **Andreas M. Fischer**, Kevin J.-P. M. Winter, Mark A. Liniger
 Federal Office of Meteorology and Climatology MeteoSwiss, Switzerland

H22: EMS2016-301

Towards the new CH2018 climate scenarios in Switzerland
Andreas M. Fischer, Erich M. Fischer, Reto Knutti, Sven Kotlarski, Mark A. Liniger, Christoph Raible, Christoph Schär, Simon C. Scherrer, Cornelia Schwierz, Elias M. Zubler
 Federal Office of Meteorology and Climatology MeteoSwiss, Climate Division, Zurich-Airport, Switzerland (andreas.fischer@meteoswiss.ch)

H23: EMS2016-51

Global drought changes under high levels of warming
Gustavo Naumann, Lorenzo Alfieri, Luc Feyen, Hugo Carrao, Jonathan Spinoni, Jürgen Vogt
 European Commission, Joint Research Centre, Ispra, Italy (gustavo.naumann@jrc.ec.europa.eu)

H24: EMS2016-359

Spatial and temporal characteristics of heat waves and cold spells over Central Europe in RCM simulations
Jan Kysely, Ondrej Lhotka, Romana Beranova, Eva Plavcova
 Institute of Atmospheric Physics CAS, Prague, Czech Republic (kysely@ufa.cas.cz), Global Change Research Institute CAS, Brno, Czech Republic

H25: EMS2016-528

Climate change impact on future heating and cooling needs in Hvar
Lidija Cvitan, Renata Sokol Jurković, Mirta Patarčić
 Meteorological and hydrological service, Research and development division, Zagreb, Croatia (cvitan@cirus.dhz.hr)

H26: EMS2016-756

Assessment of Climate Change Effects on Continentality in Europe
Michal Belda, Tomas Halenka, Jaroslava Kalvova, Eva Holtanova
 Charles University in Prague, Fac. of Mathematics and Physics, Dept. of Atmospheric Physics, Prague, Czech Republic (tomas.halenka@mff.cuni.cz)

H27: EMS2016-338

Characterization of thermal season and their projections in extratropical northern and southern hemisphere domains through the analysis of annual daily temperatures cycle as seen from regional climate model ensembles

Noelia López-Franca, **Enrique Sánchez**, Claudio Menéndez, Andrea F. Carril
Universidad Castilla-La Mancha (UCLM), Area Física de la Tierra, Environmental Sciences, Toledo, Spain
(e.sanchez@uclm.es)

END OF POSTER PROGRAMME UC2**UC4 The Cryosphere and its interactions with the climate system**

Convener: Renato R. Colucci

Co-Conveners: Florence Colleoni, Barbara Stenni

Poster area: Hall

1-minute espressi-talks: 10:15, Vulcania 2

Chairpersons: Renato R. Colucci, Barbara Stenni and Florence Colleoni

H28: EMS2016-119

Integrated geophysical, geological and oceanographic study of the Holocene paleoclimatic record offshore the western margin of the Barents Sea Ice Sheet

Michele Rebesco, Renata Lucchi, Andrea Caburlotto, Manuel Bensi, Vedrana Kovacevic, Leonardo Rui, Angelo Camerlenghi
OGS, GEOPHYSICS, Sgonico (TS), Italy
(mrebesco@ogs.trieste.it)

H29: EMS2016-288

Seasonal co-variability of surface downwelling shortwave radiation for the 1982-2009 period in the Arctic

Mauro Boccolari, Flavio Parmiggiani
University of Modena and Reggio Emilia, Department of Chemical and Geological Sciences, Modena, Italy
(mauro.boccolari@unimore.it)

H30: EMS2016-387

ARCA project: Arctic present Climatic change and pAst extreme events

Angelo Viola, Stefano Aliani, Simona Longo, Vito Vitale, Giorgiana De Franceschi, Stefania Danesi, Paola Del Carlo, Ilaria Isola, Patrizia Macrì, Giovanni Muscari, Luca Spogli, Stefano Urbini, **Michele Rebesco**, Renata Lucchi, Andrea Caburlotto, Leonardo Rui
OGS, GEOPHYSICS, Sgonico (TS), Italy

H31: EMS2016-645

The Impact of Extreme Atmospheric Circulation and Runoff on Ocean Stratification and Productivity near Greenland

Thomas Mote, Renato Castelao, Patricia Yager, Hao Luo, Hilde Oliver, Kyle Mattingly, Marco Tedesco, Asa Rennermalm, Kevin Arrigo
University of Georgia, Athens, GA, United States
(tmote@uga.edu)

H32: EMS2016-675

Sea Ice Reduction on Northern Hemisphere and its Impact on Climate of South America

Alfredo Silva, Isimar Santos, Maria Gertrudes Justi, Otto Rottuno Filho
UFRJ, IGEO, Meteorology, Rio de Janeiro, Brazil
(alfatempo@gmail.com)

H33: EMS2016-676

Sea Ice Decline Simulations with an Atmospheric Model of Intermediate Complexity

Maria Gertrudes Justi da Silva, Isimar Santos, **Alfredo Silva**
UFRJ, IGEO, Departamento de Meteorologia, Rio de Janeiro, Brazil (alfatempo@gmail.com)

H34: EMS2016-722

The climate change frozen sentinels: present extent and evolution of Italian glaciers

Roberto Sergio Azzoni, Guglielmina Diolaiuti, Carlo D'Agata, Davide Maragno, Davide Fugazza, Claudio Smiraglia
Dipartimento di Scienze della Terra "A. Desio", Università degli Studi di Milano, Milano, Italy

H35: EMS2016-313

Abrupt decay of underground cryosphere driven by increasing extreme weather events in the Southeastern European Alps

Renato R. Colucci, Barbara Bertozzi, Daniele Fontana, Emanuele Forte, Michele Potleca, Mauro Guglielmin
Department of Earth System Sciences and Environmental Technology - ISMAR, CNR Trieste (Italy)

END OF POSTER PROGRAMME UC4**SE3/AM2 Severe weather impacts for the European society in the past, present and future**

Convener: Antti Mäkelä

Co-Convener: Andrea Vajda

Poster area: Hall

1-minute espressi-talks: 14:00, Saturnia

H60: EMS2016-122

The Observational Analysis of A Tornado Associated with the Typhoon Mugigae

Zhaohui Li, Donghai Wang, Lijun Yan, Jianjun Zhu, Xuehu Mai
Foshan Meteorological Service, Foshan, Guangdong, China (lzh012333@163.com)

H61: EMS2016-310

An analysis of flooding economic impact in Urumea area

Santiago Gaztelumendi, Joseba Egaña, Jose Antonio Aranda
Meteorology Area, Energy and Environment Division, TECNALIA R&I, Basque Country, Spain, Basque Meteorology Agency (EUSKALMET), Basque Country, Spain

H62: EMS2016-311

Meteorological characterization of events that generate floods impact in north part of Basque Country

Santiago Gaztelumendi, Joseba Egaña, José Antonio Aranda

Meteorology Area, Energy and Environment Division, TECNALIA R&I, Basque Country, Spain, Basque Meteorology Agency (EUSKALMET), Basque Country, Spain

H63: EMS2016-319

Analysis of coastal impact in Basque Country area

Santiago Gaztelumendi, Joseba Egaña, Pedro Liria, Manuel Gonzalez, José Antonio Aranda

Meteorology Area, Energy and Environment Division, TECNALIA R&I, Basque Country, Spain, Basque Meteorology Agency (EUSKALMET), Basque Country, Spain

H64: EMS2016-399

Future projections of freezing rain climatology in Europe

Matti Kämäräinen, **Andrea Vajda**, Otto Hyvärinen, Ilari Lehtonen, Kirsti Jylhä

Finnish Meteorological Institute, Helsinki, Finland
(matti.kamarainen@fmi.fi)

END OF POSTER PROGRAMME SE3/AM2

ASI3 Formulation, validation and parameterization of small-scale processes in atmospheric modelling

Convenor: Gert-Jan Steeneveld

Co-Convenors: Bert Holtslag, Lisa Bengtsson

Poster area: Gallery

1-minute espresso-talks: 14:00, Oceania AB

Chairperson: Bert Holtslag

G6: EMS2016-48

Parameterization of latent heat released by condensation for using in a Global Thermodynamic Climate Model

Julio César Melchor Pinto, Víctor Manuel Mendoza Castro, René Garduño, Elva Villanueva Urrutia Centro de Ciencias de la Atmósfera, Universidad Nacional Autónoma de México, México D.F., México
(julio.melchor@atmosfera.unam.mx)

G7: EMS2016-49

Atmospheric response over Mexico and its adjacent seas to oceanic surface forcing, using a Global Thermodynamic Model during El Niño 1982-83, 1997-98, 2015-16.

Víctor Manuel Mendoza Castro, Julio César Melchor Pinto, René Garduño, Elva Villanueva Urrutia Centro de Ciencias de la Atmósfera, Universidad Nacional Autónoma de México, México D.F., México
(victor@atmosfera.unam.mx)

G8: EMS2016-141

Large-Eddy Simulation of Mesoscale Circulations Forced by Inhomogeneous Urban Heat Island

Ning Zhang

(ningzhang@nju.edu.cn)

G9: EMS2016-160

Modelling Glaciers in the ALADIN-HIRLAM Numerical Weather Prediction System

Ruth Mottram, **Emily Gleeson**, Kristian Pagh Nielsen, Xiaohua Yang

Met Éireann, Glasnevin Hill, Dublin D09 Y921, Ireland
(emily.gleeson@met.ie)

G10: EMS2016-163

Scale-adaptive turbulence scheme in Hymex in the grey zone of turbulence

Rachel Honnert, Didier Ricard, Antoine Teixeira

CNRM, GMAP, Toulouse, France

(rachel.honnert@meteo.fr)

G11: EMS2016-692

Numerical framework and performance of the new multiple phase cloud microphysics scheme in RegCM4.5 evaluated using the satellite simulator package COSP.

Rita Nogherotto, Adrian Mark Tompkins, Graziano Giuliani, Erika Coppola, Giorgi Filippo

The Abdus Salam International Centre for Theoretical Physics, Earth System Physics Group, Trieste, Italy
(rnoghero@ictp.it)

G12: EMS2016-535

Effect of evapotranspiration on isotopic composition of precipitation

Hajnalka Breuer, György Czuppon, Gergő Simon, Júlia Göndöcs, Emese Bottyán, Zoltán Kern

Eötvös Loránd University, Department of Meteorology, Budapest, Hungary
(bhajni@nimbus.elte.hu)

G13: EMS2016-533

Sensitivity of the regional climate model ALARO-0 to land surface changes

Julie Berckmans, Alexandra-Jane Henrot, Ingrid Jacquemin, Rafiq Hamdi

Royal Meteorological Institute, Department of Meteorological and Climatological Research, Uccle, Belgium, Centre of Excellence PLECO (Plant and Vegetation Ecology), University of Antwerp, Antwerp, Belgium

END OF POSTER PROGRAMME ASI3

ASI6/UC8 Towards better understanding mid-latitude atmospheric teleconnections

Convener: Javier Garcia-Serrano
Co-Conveners: Paolo Davini, Yannick Peings
Poster area: Gallery
1-minute espressi-talks: 14:00, Vulcania 2

Chairperson: J. Garcia-Serrano

G14: EMS2016-626

El Niño influence on the Basque Country
 Maialen Martija, Belén Rodríguez-Fonseca, **Santiago Gaztelumendi**
 Meteorology Area, Energy and Environment Division,
 TECNALIA R&I, Basque Country, Spain, Basque Meteorology Agency (EUSKALMET), Basque Country, Spain

G15: EMS2016-418

Winter precipitation in Poland during western circulation in relation to water vapor transport
 Piotr Piotrowski, **Joanna Jędruszkiewicz**
 Institute of Geography, Pedagogical University of Cracow, Kraków, Poland (jjedruszkiewicz@gmail.com)

G16: EMS2016-60

Synoptic features of wintertime precipitation over southeastern China and relation with the Northern Atlantic Oscillation
Chao Li, Maoyuan Lou, Shifeng Hao
 Zhejiang Provincial Meteorological Observatory, Hangzhou, China (lichao@mail.iap.ac.cn), Zhejiang Institute of Meteorological Sciences, Hangzhou, China

END OF POSTER PROGRAMME ASI6/UC8

ASI8 Atmospheric hazards

Convener: Fulvio Stel
Co-Conveners: Dario Giaiotti, Sante Laviola, Jordi Mazon
Poster area: Gallery
1-minute espressi-talks: 09:00, Oceania AB

Chairperson: Dario Giaiotti

G20: EMS2016-115

Representing the dynamics of European Temperature extremes in CMIP5 historical simulations
M. Carmen Alvarez-Castro, Davide Faranda, Thomas Noël, Pascal Yiou
 Laboratoire des sciences du climat et de l'environnement (LSCE). Université Paris-Saclay, LSCE, Gif-sur-Yvette, France (carmen.alvarez-castro@lsce.ipsl.fr)

G21: EMS2016-178

Joint modes of air temperature and precipitation related to atmospheric circulation over Greece.
Iliana Polychroni, Panagiotis Nastos, Evangelos Baltas
 Laboratory of Climatology and Atmospheric Environment, Faculty of Geology and Geoenviroment, National and Kapodistrian University of Athens, University Campus, GR 15784 Athens, Greece, Department of Water Resources and Environment, Faculty of Civil Engineering, National Technical University of Athens, 5 Iroon Polytechniou, 157 73, Athens, Greece

G22: EMS2016-299

An empirical relation between Swiss hail occurrence and monthly environmental parameters
Erica Madonna, Olivia Martius
 Oeschger-Centre for Climate Change Research and Institute of Geography, University of Bern, Bern, Switzerland, Geophysical Institute, University of Bergen and Bjerknes Centre for Climate Research, Bergen, Norway (erica.madonna@uib.no)

G23: EMS2016-317

Analysis of a tornado event in Basque Country
Santiago Gaztelumendi, Joseba Egaña, Arkaitz Etxezarreta, Mercedes Maruri, José Antonio Aranda Basque Meteorology Agency (EUSKALMET), Basque Country, Spain, Meteorology Area, Energy and Environment Division, TECNALIA R&I, Basque Country, Spain

G24: EMS2016-320

A case study of heavy storms in Basque Country: 30-31 August 2015 event.
 Joseba Egaña, Olatz Principe, Virginia Palacio, **Santiago Gaztelumendi**
 Meteorology Area, Energy and Environment Division, TECNALIA R&I, Basque Country, Spain, Basque Meteorology Agency (EUSKALMET), Basque Country, Spain

G25: EMS2016-367

Synoptic climatology of heavy precipitation in an active landslide region of Romania (Curvature Carpathian-Subcarpathian region)
Dana Micu, Simona Andrei, Mihai Micu, Razvan Zarea, Florica Toanca
 National Institute of R&D for Optoelectronics, Remote Sensing Department, Magurele - Bucharest, Romania
 (simona.andrei@inoe.ro)

G26: EMS2016-371

Study of the Icelandic volcanic ash clouds trajectories and their impact on Romanian controlled air space
Ana Denisa Urlea, Sabina Stefan, Nicu Barbu
 University of Bucharest, Faculty of Physics, P.O.BOX MG-11 Magurele, Bucharest, Romania
 (denisaurlea@yahoo.com), Romanian Air Traffic Services Administration, 10 Ion Ionescu de la Brad Str., Bucharest, Romania

G27: EMS2016-498

Assessing the contribution of atmospheric aerosols' optical properties in the development of deep convective clouds with hail
Simona Andrei, Camelia Talianu, Florica Toanca, Sabina Stefan
 National Institute of R&D for Optoelectronics, Remote Sensing Department, Magurele - Bucharest, Romania

G28: EMS2016-21

Fog analysis using remote sensing and in situ data in a suburban area, Romania
Florica Toanca, Luminita Marmureanu, Jeni Georgeta Vasilescu, Anca Nemuc, Livio Belegante
 National Institute of R&D for Optoelectronics, Laser Remote Sensing, Romania (flori@inoe.ro)

END OF POSTER PROGRAMME ASI8

ASI9 Boundary-layer physics and parameterizations in weather and climate models

Convener: Sergej Zilitinkevich
Co-Convener: Arakel Petrosyan
Poster area: Gallery
1-minute espressi-talks: 14:00, Oceania AB

G29: EMS2016-172

Field and numerical study of wind-wave interaction at short fetches
Georgy Baydakov, Alexaandra Kuznetsova, Daniil Sergeev, Vladislav Papko, Alexander Kandaurov, Maksim Vdovin, Yuliya Troitskaya Institute of Applied Physics, 230, Nizhny Novgorod, Russian Federation
 (baidakov@km.ru)

G30: EMS2016-504

Investigation of the foam influence on the wind-wave interaction within laboratory modeling of atmosphere-ocean boundary layer
Maksim Vdovin, Yuliya Troitskaya, Daniil Sergeev
 IAP RAS, Nonlinear geophysical processes, Nizhny Novgorod, Russian Federation (arfirius@yandex.ru)

END OF POSTER PROGRAMME ASI9

CE1 Media and Communication

Convener: Tanja Cegnar

Poster area: Hall

1-minute espressi-talks: 12:45, Oceania C

Chairperson: T. Cegnar

H72: EMS2016-314

Severe weather as a spectacle: the Meteo-Show
Iñaki Orbe, Santiago Gaztelumendi
 Meteorology Area, Energy and Environment Division, TECNALIA R&I, Basque Country, Spain, Basque Meteorology Agency (EUSKALMET), Basque Country, Spain

H73: EMS2016-458

The weather roulette: communicating probabilistic predictions for wind energy
Isadora Christel, Llorenç Lledó, Verónica Torralba, Albert Soret, Nube Gonzalez-Reviriego, Francisco J. Doblas-Reyes
 Barcelona Supercomputing Center (BSC), Barcelona, Spain (isadora.jimenez@bsc.es)

H74: EMS2016-441

Connecting global climate change evidence and worldwide policies to the local context: how a local meteorological institution can most effectively communicate and foster action
Federica Flapp, Stefano Micheletti
 ARPA Friuli Venezia Giulia - OSMER, Visco (UD), Italy (federica.flapp@arpa.fvg.it)

END OF POSTER PROGRAMME CE1

Wednesday, 14 September 2016							
Room	Saturnia	Vulcania 1	Oceania AB	Oceania C	Vulcania 2	Room	
09:00–10:30	ASI13: Energy Meteorology	UC7: Synoptic climatology	CE2/AM3: Impact based forecasts and risk based warnings	SE2: The Copernicus Climate Change Service implemented by ECMWF	ASI7/CE10: Human Biometeorology	09:00–10:30	
10:30	Coffee Break					10:30	
11:00–13:00	ASI13	UC7 until 12:15 UC6: Global and regional reanalyses	AM1: High Impact Weather	CE4: Adaptation Strategies	ASI7/CE10	11:00–13:00	
13:00	Lunch Break					13:00	
14:00–14:55	1-minute espressi-talks (poster intro) NWP1 (room Oceania AB) HALL: Poster boards H1-H78 UC6 – UC7 – SE2 AM1 NWP1			Poster Session Cafè (espresso) provided 14:00-14:30		1-minute espressi-talks (poster intro) OBS3 (room Vulcania 2) GALLERY: Poster boards G1-G56 ASI7/CE10 OBS3	14:00–14:55
15:00–17:00	ASI13	UC6 15:00: Lecture Technology Achievement Award	NWP1: Dynamics and predictability of high impact weather	14:30 CE7: Quality Management and Infrastructure	OBS3: Meteorological observations from ground and space-based Global Navigation Satellite System (GNSS)	15:00–17:00	
17:00	Refreshment Break					17:00	
17:30–19:00	ECAC Symposium Room Saturnia Climate Change – Adaptation and Mitigation: The role of climate science and services see also page 11					17:00–19:00	

In the detailed daily programme (on pages 56 to 68) sessions are listed chronologically, according to the time for the oral presentations (09:00–10:30, 11:00–13:00, and 15:00–16:30). Within each time block sessions are listed in the following order: ECAC (UC – SE), AM, ASI, CE, NWP, OBS.

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 18:00–18:30. Posters that have not been removed within this dismantling time will be removed and disposed of.

Side meetings

Side meetings and workshops take place in rooms Marconi and Vulcania 2. For details see page 20.

Wednesday, 09:00–10:30

UC7 Synoptic climatology

Lecture room: Vulcania 1

Conveners: Radan Huth; Rasmus Benestad

Chairperson: Maria Hatzaki

Statistical (empirical) downscaling

09:00–09:30: EMS2016-214

Using principal component analysis in empirical-statistical downscaling to emphasise synoptic scales (solicited)

Rasmus Benestad, Abdelkader Mezghani, Kajsa Parding, Deliang Chen, Lijun Fan
Norwegian Meteorological Institute, Research and Developement, Oslo, Norway
(rasmus.benestad@met.no)

09:30–09:45: EMS2016-718

Validation of spatial and temporal characteristics simulated by a variety of downscaling models: Results of the VALUE project

Radan Huth, Martin Widmann, Douglas Maraun, José Manuel Gutiérrez, Elke Hertig, María Jesús Casado, Judit Bartholy, Rita Pongrácz, Joaquín Bedia, Andreas Fischer
Charles University, Faculty of Science, Dept. of Physical Geography and Geoecology, Praha 2, Czech Republic (huth@ufa.cas.cz), Institute of Atmospheric Physics, Czech Academy of Sciences, Praha 4, Czech Republic

09:45–10:00: EMS2016-478

Future changes in precipitation statistics on high spatial and temporal resolution using a conditional stochastic model

Aristita Busuioc, Alexandru Dumitrescu, Felicia Carbone
National Meteorological Administration, Climatology, Bucharest, Romania
(alexandru.dumitrescu@gmail.com)

10:00–10:15: EMS2016-615

Multidecadal To Centennial Surface Wind Variability Over Northeastern North America Via Statistical Downscaling

Etor E. Lucio-Eceiza, J. Fidel González-Rouco, Jorge Navarro, Elena García-Bustamante, Hugo Beltrami
Universidad Complutense de Madrid, Astrofísica y Ciencias de la Atmósfera, Madrid, Spain, Instituto de Geociencias (UCM-CSIC). Madrid, Spain

10:15–10:30:

1-minute espresso talks (poster introductions)

SE2 The Copernicus Climate Change Service implemented by ECMWF

Lecture room: Oceania C

Conveners: Dick Dee; Jean-Noel Thepaut

Co-Convener: Carlo Buontempo

Chairperson: Jean-Noel Thepaut

09:00–09:15: **1-minute espresso talks (poster introductions)**

09:15–09:30: EMS2016-740

EDgE, a Sectoral Information System for the water sector

Christel Prudhomme, Gwyn Rees, Luis Samaniego, Glenn Watts, Helen Houghton-Carr
CEH, HRR, Wallingford, United Kingdom
(chrp@ceh.ac.uk)

09:30–09:45: EMS2016-629

Urban SIS - Climate information for European Cities

Heiner Körnich, Esbjörn Olsson, Jorge Amorim, Patrick Samuelsson, David Segersson, Lars Gidhagen
SMHI, Research Department, Norrköping, Sweden
(heiner.kornich@smhi.se)

09:45–10:00: EMS2016-661

The Copernicus Climate Change Service 'European Climatic Energy Mixes (ECEM)'

Alberto Troccoli and the ECEM Team
UEA, School of Environmental Sciences, United Kingdom (alberto.troccoli@wemcouncil.org)

10:00–10:15: EMS2016-187

UERRA regional reanalysis products, data services, quality and user interaction

Per Undén, Manola Brunet, Richard Renshaw, Andrea Kaiser-Weiss, Else van den Besselaar, Phil Jones
Swedish Meteorological and Hydrological Institute (SMHI), Norrkoping, Sweden

10:15–10:30: EMS2016-751

CLIPC: From Big Data Science to Big Data Decisions

Martin Juckes, Rob Swart, Lars Bärring, Annemarie Groot, Peter Thysse, Wim Som de Cerff, Victoria Bennett, Luis Costa, Johannes Lückenkötter, Sarah Callaghan
STFC, RAL Space, Chilton, Didcot, Oxon, United Kingdom (martin.juckes@stfc.ac.uk)

END OF ORAL PROGRAMME SE2

ASI7/CE10 Human Biometeorology

Lecture room: Vulcania 2

Convener: Andreas Matzarakis
Co-Convener: Tanja Cegnar

Chairperson: Tzu-Ping Lin

1-minute espresso talks (poster introductions)

09:15–09:30: EMS2016-1

Concept and application of the Heat Health Warning System in Germany

Andreas Matzarakis

Research Center Human-Biometeorology, Deutscher Wetterdienst, Freiburg, Germany
 (andreas.matzarakis@dwd.de)

09:30–09:45: EMS2016-12 (EMS Tromp YSTA)

Assessing uncertainties for the calculation of perceived temperature in an urban environment

Jana Fischereit, K. Heinke Schlünzen, Michael Bruse
 Meteorologisches Institut, University of Hamburg, Hamburg, Germany (jana.fischereit@uni-hamburg.de)

09:45–10:00: EMS2016-2

Modelling of thermal indices in urban micro scale - Assessment of radiation and wind influence

Andreas Matzarakis, Dominik Fröhlich, Marcel Gangwisch
 University of Freiburg, Chair of Meteorology and Climatology, Freiburg, Germany
 (andreas.matzarakis@meteo.uni-freiburg.de)

10:00–10:15: EMS2016-186

The effects of vegetation in thermal comfort amelioration

Areti Tseliou, **Panagiotis Nastos**, Ioannis Tsilos
 National and Kapodistrian University, Athens, Greece
 (nastos@geol.uoa.gr)

10:15–10:30: EMS2016-278

The potential of modified Physiologically Equivalent Temperature (mPET) in the hot-humid regions based on the local thermal comfort

Tzu-Ping Lin, Shing-Ru Yang, Andreas Matzarakis
 National Cheng Kung University, Department of Architecture, Tainan, Taiwan (lin678@gmail.com)

ORAL PROGRAMME ASI7/CE10 CONTINUES ON WEDNESDAY, 11:00

ASI13 Energy Meteorology

Lecture room: Saturnia

Convener: Sven-Erik Gryning

Co-Conveners: Ekaterina Batchvarova; Lucien Wald; Marion Schroedter-Homscheidt

Chairperson: Marion Schroedter-Homscheidt

09:00–09:15: EMS2016-530

Environmental production factors in solar energy forecasting

Herman Böök, Carl Fortelius, Sami Niemelä, Anders Lindfors
 Finnish Meteorological Institute, Helsinki, Finland

09:15–09:30: EMS2016-180

A "smart" method for short-term solar radiation forecasting

Javier Rodriguez-Benitez, Clara Arbizu-Barrena, Samuel Quesada-Ruiz, Joaquin Tovar-Pescador, David Pozo-Vazquez
 MATRAS Res. Group, Department of Physic, University of Jaén, 23071, Jaén, Spain (dpozo@ujaen.es)

09:30–09:45: EMS2016-139

Surface Downwelling Solar Radiation as estimated from MSG/SEVIRI and predicted by RAMS model forecast: verification and improvements from analysis

Stefano Federico, Monica Campanelli, Ping Wang, Paolo Sanò, Daniele Casella, Stefania Vergari, Stefano Dietrich
 ISAC-CNR, ISAC-CNR, via del Fosso del Cavaliere 100, 00133 Rome, Italy (s.federico@isac.cnr.it)

09:45–10:00: EMS2016-324

Warning Electricity Grid Operators about Large Photovoltaic Forecast Errors

Rafael Fritz, Yves-Marie Saint-Drenan, Malte Siefert
 Fraunhofer IWES, Kassel, Germany,
 (rafael.fritz@iwes.fraunhofer.de)

10:00–10:15: EMS2016-517

The Project PerduS: Forecasting the reduction in photovoltaic power production during Saharan dust outbreaks - first results

Andrea Steiner, Vanessa Wehner, Jochen Förstner
 Deutscher Wetterdienst, Research and Development, Offenbach, Germany

10:15–10:30: EMS2016-146

Development of innovative weather and power forecast models for the grid integration of weather-dependent energy sources

Malte Siefert, Jan Dobschinski
 Fraunhofer IWES, Kassel, Germany
 (malte.siefert@iwes.fraunhofer.de)

ORAL PROGRAMME ASI13 CONTINUES ON WEDNESDAY, 11:00

CE2/AM3 Delivery and communication of impact based forecasts and risk based warnings

Lecture room: Oceania AB

Conveners: Dee Cotgrove; Haleh Kootval

Co-Convenor: Tanja Cegnar

Chairperson: Dee Cotgrove

09:00–09:15: EMS2016-136

Real-time Thunderstorm Warnings for the Population and the Authorities

Marco Gaia, Alessandro Hering, Guido Della Bruna
MeteoSwiss, Centro regionale sud, Locarno,
Switzerland (marco.gaia@meteosvizzera.ch)

09:15–09:30: EMS2016-407

Italian codified hashtags for weather warning on Twitter.
Who is really using them?

Valentina Grasso, Alfonso Crisci, Paolo Nesi, Gianni Pantaleo, Imad Zaza, Bernardo Gozzini
LaMMA Consortium, Italian National Research Council
Tuscany Region, Florence, Italy
(v.grasso@ibimet.cnr.it), IBIMET CNR, Italian National Research Council, Florence, Italy

09:30–09:45: EMS2016-697

MeteoSwiss - Natural Hazards at a glance Mobile App

Barbara Galliker
Federal Office of Meteorology and Climatology
MeteoSwiss

09:45–10:00: EMS2016-103

'Name our Storms' pilot project - improving communication of severe weather

Emma Sharples
Met Office, United Kingdom
(emma.sharples@metoffice.gov.uk)

10:00–10:15: EMS2016-776

How storm naming improves communication to general public

Gerald Fleming
Met Eireann, Ireland (g.fleming@eircom.net)

10:15–10:30:

Panel Q&A with Barbara Galliker, Emma Sharples and Gerald Fleming

END OF ORAL PROGRAMME CE2/AM3

Wednesday, 11:00-13:00

UC7 Synoptic climatology

Lecture room: Vulcania 1

Convenors: Radan Huth; Rasmus Benestad

Chairperson: Rasmus Benestad

Classifications

11:00–11:30: EMS2016-717

Atmospheric circulation types and extreme areal precipitation in southern central Europe - impacts of present and future climate change (solicited)

Jucundus Jacobbeit, Markus Homann, Andreas Philipp, Christoph Beck
University of Augsburg, Institute of Geography, Augsburg, Germany (jucundus.jacobbeit@geo.uni-augsburg.de)

11:30–11:45: EMS2016-578

Variability and trends of fog and low stratus over the Swiss Plateau: The role of circulation types
Yasmin Rosskopf, **Simon C. Scherrer**, Cornelia Schwierz, Tanja Weusthoff
Federal Office of Meteorology and Climatology MeteoSwiss, Zurich, Switzerland (simon.scherrer@meteoswiss.ch)

11:45–12:00: EMS2016-419

European Weather Types and their Persistence over Italy
Gianni Messeri, Maurizio Iannuccilli, Giampiero Maracchi, Roberto Vallorani, Bernardo Gozzini, **Giovanni Dalu**
CNR-IBIMET, Roma, Italy (g.dalu@ibimet.cnr.it), Foundation for Climate and Sustainability, Firenze, Italy

12:00–12:15: EMS2016-643

Circulation background of spatial patterns of atmospheric moisture content over Central Europe
Agnieszka Wypych, Bogdan Bochenek
Jagiellonian University, Krakow, Poland (agnieszka.wypych@uj.edu.pl)

END OF ORAL PROGRAMME UC7

ORAL PROGRAMME UC6 CONTINUES IN THIS ROOM

UC6 Global and regional reanalyses

Lecture room: Vulcania 1

Convenor: A. Kaiser-Weiss

Co-Convenors: Eric Bazile; Leopold Haimberger; Gé Verver; Dick Dee

Chairperson: Andrea Kaiser-Weiss

12:15–12:45: EMS2016-4

CERA-20C: The ECMWF coupled assimilation system for climate reanalysis (solicited)
Patrick Laloyaux
(patrick.laloyaux@ecmwf.int)

12:45–13:00: EMS2016-188

UERRA Regional Reanalysis systems developments and production for pre-operational Copernicus climate change services
Per Undén, Manola Brunet, Richard Renshaw, Andrea Kaiser-Weiss, Else van den Besselaar, Gé Verver, Albert Klein Tank, Phil Jones
Swedish Meteorological and Hydrological Institute (SMHI), Norrkoping, Sweden

ORAL PROGRAMME UC6 CONTINUES ON WEDNESDAY, 15:00

AM1 High Impact Weather: Forecasting Systems, Socio-Economic Benefits and User Perspectives

Lecture room: Oceania AB

Convenors: Ken Mylne; Adriaan Perrels

Co-Convenors: P. Davies; Yong Wang; Bernhard Reichert

Chairperson: Adriaan Perrels

Setting the stage

11:00–11:15:

Session introduction (Perrels) and 3 Poster express presentations (Stefan, Chen, Cazulli)

11:15–11:30: EMS2016-728

A Review of the Socio-Economic Benefits of the Met Office
Will Lang
UK Met Office, Operations Centre, Exeter, United Kingdom (will.lang@metoffice.gov.uk)

Specific impacts oriented forecasting & warning

11:30–11:45: EMS2016-127

Medium- to long-range forecast applications for high impact weather using predefined weather regimes

Robert Neal, Rutger Dankers

Met Office, Exeter, UK (robert.neal@metoffice.gov.uk)

11:45–12:00: EMS2016-9

Road traffic safety during the severe bora wind at the eastern Adriatic coast

Alica Bajic

Meteorological and hydrological service, Research and modeling department, Zagreb, Croatia
(alica.bajic@cirus.dhz.hr)

Dedicated forecasts for renewable electricity production

12:00–12:15: EMS2016-253

Application of Forecasting in REMCs - Development in India

Indradip Mitra, Aravindakshan Ramanan, Mandeep Kaur, Sunil Sharma, Markus Wypior, Detlev Heinemann GIZ GmbH, New Delhi, India (indradip.mitra@giz.de)

12:15–12:30: EMS2016-495

GUI for weather forecast products tailored to the needs of renewable energy industry

Tobias Reinartz, Alexandros Bouras, Isabel Metzinger, Malte Siefert

Deutscher Wetterdienst, Offenbach, Germany
(tobias.reinartz@dwd.de)

Accounting for human behaviour in impact oriented forecasting

12:30–12:45: EMS2016-519

Increasing Accuracy of National Load Forecast using a Nominal Meteorological Input, Temperature Index
Beytiye Derya Aydin, **Ahmet Faruk Kavak**

12:45–13:00: EMS2016-711

Maximizing the number of informed citizens may not maximize societal benefits

Adriaan Perrels, Francesco Ciari

Finnish Meteorological Institute, Climate Services, Helsinki, Finland (Adriaan.Perrels@fmi.fi)

END OF ORAL PROGRAMME AM1

ASI7/CE10 Human Biometeorology

Lecture room: Vulcania 2

Convener: Andreas Matzarakis

Co-Convener: Tanja Cegnar

Chairperson: Andreas Matzarakis

11:00–11:15: EMS2016-549

A thermal comfort survey of the UK

Mark McCarthy

Met Office, Hadley Centre, Exeter, United Kingdom
(mark.mccarthy@metoffice.gov.uk)

11:15–11:30: EMS2016-635

Heat Shield: Prediction of deep body temperature in workers during load carriage in hot environments

Igor Mekjavić, Urša Ciuha, Ola Eiken, Tjaša Pogačar, Marco Morabito, Simon Orlandini, Alfonso Crisci, Lučka Kajfež Bogataj

Jozef Stefan Institute, Ljubljana, Slovenia

11:30–11:45: EMS2016-94

The impact of climate change on recreation tourism in Croatia

Ksenija Zaninovic, Lidija Srnec, Grigory Nikulin, Ivan Guettler

Meteorological and Hydrological Service of Croatia

11:45–12:00: EMS2016-510

Impact of heat waves on labour productivity - case study for industry

Tjaša Pogačar, Mateja Zalar, Zalika Crepinsek, Lučka Kajfež Bogataj, Urša Ciuha, Igor Mekjavić

Biotechnical faculty, University of Ljubljana, Ljubljana, Slovenia (tjsasa.pogacar@bf.uni-lj.si)

12:00–12:15: EMS2016-663

Towards intelligent spatially detailed heatwave risk assessments for authorities and personalised tools for citizens

Iphigenia Keramitsoglou, Chris T. Kiranoudis, **Christos Giannakopoulos**, Klea Katsouyanni, Anna Karali, Panagiotis Sismanidis, Antonis Analitis, Giannis Lemesios, Vasilis Tenentes

National Observatory of Athens, Institute for Environmental Research and Sustainable Development, Athens, Greece (cgiannak@meteo.noa.gr)

12:15–12:30: EMS2016-224

Effect of Air Pollution on Respiratory Disease in Western China

Yuxia Ma, Bingshuang Xiao, Yuxin Zhao, Xiaodong Zheng

The Gansu Key Laboratory of Arid Climate Change and Reducing Disaster, College of Atmospheric Sciences, Lanzhou University, Lanzhou, China
(mayuxia07@lzu.edu.cn)

12:30–12:45: EMS2016-231

Case studies and discussions about meteorosensitivity in southern Germany
Christian König
 Agency, Press & Media, Germany
 (christiankoenig2004@yahoo.de)

END OF ORAL PROGRAMME ASI7/CE10**ASI13 Energy Meteorology**

Lecture room: Saturnia

Convener: Sven-Erik Gryning
Co-Conveners: Ekaterina Batchvarova; Lucien Wald; Marion Schroedter-Homscheidt

Chairperson: Lucien Wald

11:00–11:30: EMS2016-362

Fish-eye camera: a new meteorological instrument of high potential for meteorology and energy (solicited)

Philippe Blanc
 MINES ParisTech - PSL Research university, Center Observation, Impacts, Energie, Sophia Antipolis CEDEX, France (philippe.blanc@mines-paristech.fr)

11:30–11:45: EMS2016-170

Evaluation of various procedure transposing global tilted irradiance to horizontal surface irradiance

Caroline Housmans, Cédric Bertand
 Royal Meteorological Institute of Belgium, Brussels, Belgium

11:45–12:00: EMS2016-315

Estimating the amount of cloud cover (in oktas) using photovoltaics

Stavros Stylianou, Rogiros Tapakis, Alexandros G. Charalambides
 Cyprus University of Technology, Department of Environmental Science and Technology, Limassol, Cyprus (a.charalambides@cut.ac.cy)

12:00–12:15: EMS2016-386

Classifying 1 minute temporal variability in global and direct normal irradiances within each hour from ground-based measurements

Marion Schroedter-Homscheidt, Sandra Jung, Miriam Kosmale
 DLR, German Remote Sensing Data Center, Wessling, Germany (marion.schroedter-homscheidt@dlr.de)

12:15–12:30: EMS2016-469

On the land-sea contrast in the solar resource climatology over Europe

Anders Lindfors, Aku Riihelä, Thomas Carlund, Jörg Trentmann, Richard Müller
 Finnish Meteorological Institute, Finland

12:30–12:45: EMS2016-167

Solar irradiation variability over Iberian Peninsula for electricity generation: RCM analysis regarding aerosols implications
Claudia Gutiérrez, Miguel Ángel Gaertner, Clemente Gallardo, Victoria Gil
 Instituto de Ciencias Ambientales, Universidad de Castilla-La Mancha, TOLEDO, Spain
 (claudia.gutierrez@uclm.es)

12:45–13:00: EMS2016-294

Fog impact on the solar photovoltaic power production
Saverio Teodosio Nilo, Angela Cersosimo, Domenico Cimini, Francesco Di Paola, Edoardo Geraldi, Elisabetta Ricciardelli, Filomena Romano, Mariassunta Viggiano
 Institute of methodologies for environmental analysis, National Research Council, Tito Scalo, Italy
 (correspondence to: saverio.nilo@imaa.cnr.it)

ORAL PROGRAMME ASI13 CONTINUES ON WEDNESDAY, 15:00**CE4 Adaptation Strategies**

Lecture room: Oceania C

Convener: André Jol
Co-Convener: Tanja Cegnar

Chairperson: A. Jol

11:00–11:15: EMS2016-681

Information on national and urban adaptation strategies and actions in Europe

André Jol
 European Environment Agency, Head of group vulnerability and adaptation, Copenhagen K, Denmark (andre.jol@eea.europa.eu)

11:15–11:30: EMS2016-773

Climate Change Adaptation at National level: the Italian case

Maurizio Pernice, Clara Pusceddu
 Directorate General for Climate and Energy, Rome, Italy (Pernice.maurizio@minambiente.it, Pusceddu.clara@minambiente.it)

11:30–11:45: EMS2016-774

Austrian Adaptation policy approach: from development to implementation

Ingeborg Auer, Markus Leitner, Andrea Prutsch
 Zentralanstalt für Meteorologie und Geodynamik, Vienna, Austria

11:45–12:00: EMS2016-767

The role of the insurance industry in adaptation to climate change

Peter Höpke
 Head of Geo Risks Research/Corporate Climate Centre, Munich Re, Germany (PHoeppel@munichre.com)

12:00–12:15: EMS2016-760

WMO Commission for Climatology supporting
adaptation to climate change and climate variability

Tanja Cegnar

Slovenian Environment Agency

12:15–12:30: EMS2016-507

The role of the EU HEAT-SHIELD project in mitigation
of heat waves' impact on labor productivity

Lucka Kajfez Bogataj, Tjaša Pogačar, Igor Mekjavic

Biotechnical faculty, University of Ljubljana, Ljubljana,
Slovenia (lucka.kajfez.bogataj@bf.uni-lj.si)

END OF ORAL PROGRAMME CE4



Wednesday, 15:00–17:00

UC6 Global and regional reanalyses

Lecture room: Vulcania 1

Convener: A. Kaiser-Weiss

Co-Conveners: Eric Bazile; Leopold Haimberger; Ge Verver; Dick Dee

Chairperson: Eric Bazile

15:00–15:15:

MARS: successfully serving meteorological data for 30 years

(**EMS Technology Achievement Award 2016**)

Baudouin Raoult

15:15–15:30: EMS2016-153

High resolution regional reanalysis over Ireland using the HARMONIE NWP system

Emily Gleeson, Eoin Whelan, Ray McGrath
Met Éireann, Glasnevin Hill, Dublin, D09 Y921, Ireland
(emily.gleeson@met.ie)

15:30–15:45: EMS2016-558

Enhanced representation of precipitation using a convection permitting regional reanalysis system

Sabrina Wahl, Susanne Crewell, Petra Friederichs, Andreas Hense, Jan Keller, Christian Ohlwein
University of Bonn, Meteorological Institute, Bonn, Germany (wahl@uni-bonn.de), Hans-Ertel-Centre for Weather Research, Climate Monitoring Branch

15:45–16:00: EMS2016-78

Evaluation and uncertainty assessment of precipitation in UERRA regional re-analyses: First results for the Alpine Region and Fennoscandia

Francesco Isotta, Cristian Lussana, Barbara Casati, Christoph Frei, Ole Einar Tveito
Federal Office of Meteorology and Climatology MeteoSwiss, Zurich, Switzerland

16:00–16:15: EMS2016-258

Estimating uncertainties in surface variables reanalyses in the framework of UERRA project

Rachid Abida, Eric Bazile
CNRM-GAME, Météo-France, Toulouse, France

16:15–16:30: EMS2016-148

Setup and first evaluation of the coupled hydro-meteorological MESCAN-SURFEX-TRIP modelling system over Europe

Camille Szczypta, Patrick Le Moigne, Bertrand Decharme, Antoine Verrelle, Eric Bazile, Rachid Abida
CNRM, UMR3589, Météo-France, Toulouse, France

16:30–16:45: EMS2016-581

ERA-Interim based analysis of persistent cold air pools over the Carpathian Basin

Karolina Szabóné André, Judit Bartholy, Rita Pongrácz
Department of Meteorology, Eötvös Loránd University, Budapest, Hungary

16:45–17:00: EMS2016-674

Evaluating solar radiation of three regional reanalyses over Europe against the satellite-derived SARAH dataset

Michael Borsche, Andrea Kaiser-Weiss, Frank Kaspar
Deutscher Wetterdienst, Offenbach, Germany
(michael.borsche@dwd.de)

END OF ORAL PROGRAMME UC6

ASI13 Energy Meteorology

Lecture room: Saturnia

Convener: Sven-Erik Gryning

Co-Conveners: Ekaterina Batchvarova; Lucien Wald; Marion Schroedter-Homscheidt

15:00–15:15: EMS2016-182

WRF advection and diffusion of MSG cloud estimates for short-term solar radiation forecasting

Clara Arbizu-Barrena, Jose Antonio Ruiz-Arias, Samuel Quesada-Ruiz, Javier Rodriguez-Benitez, Joaquin Tovar-Pescador, David Pozo-Vazquez
MATRAS Group. Physics Department, University of Jaen, Spain (dpozo@ujaen.es)

15:15–15:30: EMS2016-508

Tracking Cloud Motion with Deformation in Satellite Imagery: Lagrangian Techniques for PV Forecasts

Garrett H. Good, Yves-Marie Saint-Drenan, Rafael Fritz, Malte Siebert
Fraunhofer IWES, Kassel, Germany

15:30–15:45: EMS2016-503

Load Flow Calculation of a Low Voltage Transformer using CAMS radiation service

Holger Ruf, Konstantin Ditz, Marion Schroedter-Homscheidt, Hans Georg Beyer, Carmen Köhler, Florian Meier, Gerd Heilscher
Ulm University of Applied Science, Institut for Energy Systems and Automation, Ulm, Germany (ruf@hs-ulm.de), University of Agder, Jon Lilleluns Vei 9, NO-4876 Grimstad

15:45–16:00: EMS2016-131

Estimation and forecast of PV generation on a regional scale using satellite data and high resolution WRF output combined with machine learning techniques

Alessandro Perotto, Marco Pierro, Cristina Cornaro, Enrico Maggioni, Francesco Spada, David Moser
Ideam Srl, Via Frova 34, Cinisello Balsamo (MI), Italy, alessandro.perotto@ideamweb.com

16:00–16:15: EMS2016-302

Use of post processing techniques and satellite irradiance data to forecast short wave solar radiation

Enrico Maggioni, Alessandro Perotto, Francesco Spada, Cristina Cornaro, Marco Pierro
Ideam S.r.l., Via Frova 34 Cinisello Balsamo (MI), Italy (enrico.maggioni@ideamweb.com)

16:15–16:30: EMS2016-540

Satellite-based solar irradiance assessment and forecasting in tropical insular areas
Sylvain Cros, Maxime Deroubaix, Mathieu Turpin, Patrick Jeanty
 Reuniwatt SAS, R&D, Sainte-Clotilde, Reunion Island, France (sylvain.cros@reuniwatt.com)

16:30–16:45: EMS2016-372

Hilbert-Huang spectral analysis for the characterization of variability in satellite-derived time series of surface solar irradiance
Marc Bengulescu, Philippe Blanc, Lucien Wald
 MINES ParisTech - PSL Research University, Sophia Antipolis cedex, France (lucien.wald@mines-paristech.fr)

16:45–17:00: EMS2016-667

Short-range NWP for direct normal irradiance by utilizing Meteosat Second Generation data
Heiner Körnich, Magnus Lindskog, Tomas Landelius
 SMHI, Research Department, Norrköping, Sweden (heiner.kornich@smhi.se)

ORAL PROGRAMME ASI13 CONTINUES ON THURSDAY, 09:00

CE7 Quality Management and Infrastructure

Lecture room: Oceania C

Note: This session starts already at 14:30!

Convener: Jelko Urbančič

Co-Convener: Tanja Cegnar

Chairperson: J. Urbančič

14:30–14:45: EMS2016-764

How to change an organization according to the ISO 9001:2015
 Marko Kiauta, **Jelko Urbančič**
 Tangram TQC, Ljubljana, Slovenia, Slovenian Water Agency, Ljubljana, Slovenia

14:45–15:00: EMS2016-734

Quality Management System in Maroc Meteo, Roadmap for the implementation of a Global QMS in a NMHS (solicited)
Fatima Zahra Bensaid, Bouchra Eljohra
 Maroc Météo, Casablanca, Morocco (fzbensaid@gmail.com)

15:00–15:15: EMS2016-191

Certification and professional accreditation in the meteorological service providers
Raffaele Salerno
 Centro Epson Meteo, Sesto S. Giovanni (MI), Italy (raffaele.salerno@meteo.expert)

15:15–15:30: EMS2016-775

Meteorological services and quality management under participation of the German Meteorological Society
Armin Raabe
 German Meteorological Society (DMG), Institut f. Meteorologie Universität Leipzig, Germany (raabe@uni-leipzig.de)

15:30–15:45: EMS2016-569

The professional meteorologists and meteorological technicians in Italy: overview of the national legislation and certification scheme
 Mara Altieri, **Marina Baldi**, Massimo Ferrario, Massimo Ferri, Teodoro Georgiadis, Vittorio Villasmunta, Dino Zardi
 Associazione Geofisica Italiana, AGI, Roma, Italy, CNR - Institute of Biometeorology, Italy (m.baldi@ibimet.cnr.it), WMO RTC-Italy, Firenze, Italy

15:45–16:15: EMS2016-779

Professional Accreditation in the UK: Become a Registered or Chartered Meteorologist (solicited)
 Liz Bentley, **Chloe Moore**
 Royal Meteorological Society, UK

16:15–16:30: EMS2016-759

Quality management personal education and certification
Jelko Urbančič
 Slovenian Water Agency and Slovenian Association for Quality and Excellence

16:30–17:00:

Questions and discussion

END OF ORAL PROGRAMME CE7

OBS3 Meteorological observations from ground and space-based Global Navigation Satellite System (GNSS)

Lecture room: Vulcania 2

Convener: Jonathan Jones

Co-Convener: Guergana Guerova

Chairperson: Guergana Guerova

15:00–15:30: EMS2016-762

GNSS for climate research: a twenty year perspective of using ground-based networks in northern Europe
Gunnar Elgered
 Chalmers University of Technology, Onsala Space Observatory, Sweden

15:30–15:45: EMS2016-100

On the potential of ground-based GPS measurements for climatological and hydrological applications
Isabella Bordi
 Consorzio Interuniversitario Nazionale per la Fisica delle Atmosfere e delle Idrosfere (CINFAI), Rome, Italy (isabella.bordi@cinfa.i)

15:45–16:00: EMS2016-687

COST Action ES1206: Advanced GNSS Tropospheric Products for Monitoring Severe Weather Events and Climate (GNSS4SWEC)

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

16:00–16:15: EMS2016-388

4DVAR assimilation of GNSS zenith path delays into a numerical weather prediction model

Karina Wilgan, Witold Rohm, Jakub Guzikowski, Jan Kaplon, Maciej Kryza, Paweł Hordyniec
Institute of Geodesy and Geoinformatics, Wrocław University of Environmental and Life Sciences, Wrocław, Poland

16:15–16:30: EMS2016-595

A GNSS-based bayesian technique for atmospheric profiling in extended area

Andrea Antonini, Riccardo Benedetti, Luca Rovai, Stefano Romanelli, Samantha Melani, Alberto Ortolani, Bernardo Gozzini
Consorzio LaMMA (antonini@lamma.rete.toscana.it)

16:30–16:45: EMS2016-183

Fog case study with GNSS tropospheric products, Sofia Stability Index and WRF model

Anastassia Stoycheva, **Guergana Guerova**, Keranka Vassileva
Sofia University, Department of Meteorology and Geophysics, Sofia, Bulgaria (guerova@phys.uni-sofia.bg)

16:45–17:00:

OBS3 session: discussion

END OF ORAL PROGRAMME OBS3**NWP1 Dynamics and predictability of high impact weather**

Lecture room: Oceania AB

Convener: Timothy Hewson

Co-Convener: Victoria Sinclair

Chairperson: Victoria Sinclair

15:00–15:15: EMS2016-698

The Forecast Skill Horizon

Roberto Buizza, Martin Leutbecher
ECMWF, Research, Reading, United Kingdom (buizza@ecmwf.int)

15:15–15:30: EMS2016-104

Blocking and persistence: a dynamical system perspective

Davide Faranda, Giacomo Masato, Nicholas Moloney, Yuzuru Sato, Francois Daviaud, Berengere Dubrulle, Pascal Yiou
CNRS, CEA-Saclay, Laboratoire de Science du Climat de l'Environnement, Gif sur Yvette, France (davide.faranda@cea.fr)

15:30–15:45: EMS2016-548

Classification of extratropical cyclogenesis events based on a set of precursors

Michael Sprenger, Michael Graf, Heini Wernli
ETH Zurich, Atmospheric and Climate Science, Zurich, Switzerland (michael.sprenger@env.ethz.ch)

15:45–16:00: EMS2016-732

Hurricane Debby: extra-tropical transition, characteristics and impacts in Finland in 1982

Terhi Laurila, Hilppa Gregow, Victoria Sinclair, Antti Mäkelä
Finnish Meteorological Institute, Helsinki, Finland (terhi.laurila@fmi.fi)

16:00–16:15: EMS2016-70

Hail precursors and predictability for regions North and South of the Swiss Alps

Simona Trefalt, Olivia Martius, Urs Germann, Alessandro Hering
University of Bern, Mobilair Group for Climate Impact Research, Hallerstrasse 12, 3012 Bern, Switzerland, Federal Office of Climatology and Meteorology MeteoSwiss, Via ai Monti 146, 6605 Locarno Monti, Switzerland

16:15–16:30: EMS2016-275

A multianalysis study of a bow echo-like storm in Northeastern Italy

Arturo Pucillo, Mario Marcello Miglietta, Kelly Lombardo, Estibaliz Gascon, Agostino (Tino) Manzato ARPA FVG (OSMER), Palmanova (UD), Italy (arturo.pucillo@meteo.fvg.it)

16:30–16:45: EMS2016-555

High-resolution forecasts over complex topography of Southeast Brazil

Sin Chan Chou, Claudine Dereczynski, Jorge Luís Gomes, Fedor Mesinger, Marcelo Seluchi, Gustavo Sueiro
CPTEC, INPE, Cachoeira Paulista, SP, Brazil

16:45–17:00: EMS2016-752

Statistical framework for generating precipitation occurrence over complex terrain

Paola Marson
University of Venice, Venice, Italy (paola.marson@unive.it)

END OF ORAL PROGRAMME NWP1

Posters Wednesday, 14:00–14:55

UC6 Global and regional reanalyses

Convener: A. Kaiser-Weiss

Co-Conveners: Eric Bazile, Leopold Haimberger, Ge Verver, Dick Dee

Poster area: Hall

Chairperson: Andrea Kaiser-Weiss

H36: EMS2016-529

The role of data recovery and historical climate records in understanding High Impact Weather

Mark McCarthy, Malcolm Allan, Christine Duffy, Tim Legg, Sarah Pankiewicz, Catherine Ross, Martyn Sunter

Met Office, Hadley Centre, Exeter, United Kingdom
(mark.mccarthy@metoffice.gov.uk)

H37: EMS2016-580

Local Reanalysis on the Convective Scale with a Fully-Coupled Model (TerrSysMP)

Clarissa Figura, Insa Thiele-Eich, Jan Keller, Christian Ohlwein, Sabrina Wahl, Andreas Hense, Clemens Simmer

Rheinische Friedrich-Wilhelms-Universität Bonn, Meteorologisches Institut, Bonn, Germany

H38: EMS2016-678

Causes for discrepancies between reanalyses and station observations in Germany

Andrea Kaiser-Weiss, Michael Borsche, Frank Kaspar DWD, National climate monitoring, Offenbach, Germany
(andrea.kaiser-weiss@dwd.de)

H39: EMS2016-420

Indirect assessment of a high-resolution precipitation reanalysis system in mountainous areas during winter.

Antoine Verrelle, Patrick Lemoigne, Eric Bazile, Rachid Abida, Camille Szczypta CNRM (Meteo-France, CNRS, UMR3589), Toulouse, France (antoine.verrelle@meteo.fr)

END OF POSTER PROGRAMME UC6

UC7 Synoptic climatology

Conveners: Radan Huth, Rasmus Benestad

Poster area: Hall

1-minute espresso-talks: 10:15, Vulcania 1

Chairperson: Rasmus Benestad

H42: EMS2016-72

Impacts of The Intraseasonal Oscillations on the Submonthly Wave Patterns over the Western North Pacific

Ken-Chung Ko

National Kaohsiung Normal University, Geography, Kaohsiung, Taiwan (kko@nknu.edu.tw)

H43: EMS2016-81

The classification of atmospheric circulation over Serbia Suzana Putnikovic, **Ivana Tasic**, Vladimir Djurdjevic University of Belgrade, Faculty of Physics, Dept.for Meteorology, Belgrade, Serbia (itasic@ff.bg.ac.rs)

H44: EMS2016-252

Climate change projections of medicanes with a large multi-model ensemble of regional climate models

Raquel Romera, Miguel Ángel Gaertner, Enrique Sánchez, Marta Domínguez, Juan Jesús González-Alemán, Mario Marcello Miglietta ICAM, UCLM, Toledo, Spain

H45: EMS2016-485

Changes in summer thermal stress index in Romania using a statistical downscaling model

Andreea Dima, Aristita Busuioc, Alexandru Dumitrescu National Meteorological Administration, Climatology, Bucharest, Romania
(alexandru.dumitrescu@gmail.com)

H46: EMS2016-630

Are jet tracks changing over Central Europe?

Anna Zsilinszki, Zsuzsanna Dezső, Rita Pongrácz, Judit Bartholy Eötvös Loránd University Department of Meteorology, Budapest, Hungary (zsilinszka@caesar.elte.hu)

H47: EMS2016-644

Synoptic analysis of some tropical-like cyclones over the Mediterranean Sea using ECMWF reanalysis data

Dávid Hérincs

Eötvös Loránd University Department of Meteorology, Budapest, Hungary (herincs.david@gmail.com)

H48: EMS2016-484

An Objective Synoptic Classification for Catalonia

Vicent Altava-Ortiz, Montse Aran, Juan Carlos Peña, Jordi Cunillera, Marc J. Prohom, Abdel Sairouni Meteorological Service of Catalonia, Barcelona, Spain (valtava@meteo.cat), Catalan Wildfire Prevention Service, Sta Perpètua de la Mogoda, Spain

H49: EMS2016-244

An optimized weather type classification scheme based on cost733 for italian peninsula.

Giulio Betti, Roberto Vallorani, Gianni Messeri, Alfonso Crisci, Bernardo Gozzini, Marco Morabito, Alessandro Messeri, Daniele Grifoni, Maurizio Iannuccilli, Giorgio Bartolini, Giampiero Maracchi
LaMMA Consortium, Sesto Fiorentino, Italy, Institute of Biometeorology (CNR - IBIMET), Firenze, Italy

END OF POSTER PROGRAMME UC7

SE2 The Copernicus Climate Change Service implemented by ECMWF

Conveners: Dick Dee, Jean-Noel Thepaut

Co-Convenor: Carlo Buontempo

Poster area: Hall

1-minute espressi-talks: 09:00, Oceania C

H58: EMS2016-393

The ERA-CLIM2 Global Registry: a new metadatabase for historical data

Maria Antónia Valente, Thomas Cropper, Pedro Gomes, Maria Clara Ventura
Instituto Dom Luiz, Faculdade de Ciências da Universidade de Lisboa, Portugal (mavalente@fc.ul.pt)

H59: EMS2016-467

Seasonal forecasts for the wind power industry within the CLIM4ENERGY project

Llorenç Lledó, Albert Soret, Verónica Torralba, Francisco J. Doblas-Reyes
Barcelona Supercomputing Center-Centro Nacional de Supercomputación (BSC-CNS), Spain (llledo@bsc.es)

END OF POSTER PROGRAMME SE2

AM1 High Impact Weather: Forecasting Systems, Socio-Economic Benefits and User Perspectives

Conveners: Ken Mylne, Adriaan Perrels

Co-Conveners: Yong Wang, Bernhard Reichert

Poster area: Hall

1-minute espressi-talks: 11:00, Oceania AB

H66: EMS2016-111

Hailstorm forecasting based on stability indices derived from radio-sounding profiles

Sabina Stefan, Nicu Barbu, Florica Toanca
University of Bucharest, Faculty of Physics, Atmospheric Physics, BUCHAREST, Romania (sabina_stefan@yahoo.com)

H67: EMS2016-236

Observational study on complementary relationship between pan evaporation and actual evapotranspiration and its variation with pan type

Hongchao Zuo, Bo long Chen

College of Atmospheric Sciences, Lanzhou University, Lanzhou, China (chenbl@lzu.edu.cn)

H68: EMS2016-401

A "seamless forecast service" for EXPO2015

Gian Paolo Minardi, Orietta Cazzuli, Roberto Cremonini
ARPA Lombardia, Milano, Italy

END OF POSTER PROGRAMME AM1

ASI7/CE10 Human Biometeorology

Convener: Andreas Matzarakis

Co-Convenor: Tanja Cegnar

Poster area: Gallery

1-minute espressi-talks: 09:00, Vulcania 2

Chairperson: Andreas Matzarakis

G17: EMS2016-650

Projections of the future climate potential for different type of tourism in Hungary

Akos Nemeth

Hungarian Meteorological Service, Budapest, Hungary (nemeth.a@met.hu)

G18: EMS2016-462

Assessment of thermal sensation in complex urban micro environments, utilizing meteorological measurements from sensors mounted on a cargo bicycle

Panagiotis T. Nastos, Irini Berdebe, Marina-Panagiota P. Nastou

University of Athens, Laboratory of Climatology and Atmospheric Environment, Athens, Greece (nastos@geol.uoa.gr)

G19: EMS2016-473

Biometeorological Conditions and Respiratory Admissions in Crete Island, Greece

Anastasia G. Blesta, Panagiotis T. Nastos

Laboratory of Climatology and Atmospheric Environment, Faculty of Geology and Geoenviroment, National and Kapodistrian University of Athens, University Campus GR 15784 Athens, Greece (ablesta@geol.uoa.gr)

END OF POSTER PROGRAMME ASI7/CE10

OBS3 Meteorological observations from ground and space-based Global Navigation Satellite System (GNSS)

Convener: Jonathan Jones
Co-Convener: Guergana Guerova
Poster area: Gallery
1-minute espresso-talks: 14:00, Vulcania 2

Chairpersons: Jonathan Jones, Guergana Guerova

G53: EMS2016-176

Comparison of WRF model with GNSS tropospheric products during intense precipitation events in Bulgaria
Guergana Guerova, Martin Slavchev
 National Institute of Meteorology and Hydrology, Sofia, Bulgaria

G54: EMS2016-280

Investigation of the dependence between ZTD and vertical position of GNSS stations on the example of long-term EPN measurements.
Zofia Bałdysz, Karolina Szafranek, Grzegorz Nykiel, Andrzej Araszkiewicz, Mariusz Figurski
 Military University of Technology, Warsaw, Poland
 (zofia.baldysz@wat.edu.pl)

G55: EMS2016-568

GNSS Meteorology Studies in Ankara for the Comparison of Water Vapour Estimates
Emine Tanır Kayıkçı, Selma Zengin Kazancı, Mesut Demircan
 Karadeniz Technical University, Department of Geomatics Engineering, Trabzon, Turkey
 (etanir@ktu.edu.tr)

G56: EMS2016-705

Achievements of GNSS4SWEC Working Group 1: Advanced GNSS Processing Techniques
Jan Douša, Galina Dick, Michal Kačmařík, Pavel Václavovic, Eric Pottiaux, Florian Zus, Hugues Brenot, Gregor Möller, Fabian Hinterberger, Rosa Pacione, Andrea Stuerze, Kryštof Eben, Norman Teferle, Wenwu Ding, Laurent Morel, Jan Kaplon, Paweł Hordyniec, Witold Rohm
 Geodetic Observatory Pecny, RIGTC, Zdiby, Czech Republic (JAN.DOUS@PECNY.CZ)

END OF POSTER PROGRAMME OBS3

NWP1 Dynamics and predictability of high impact weather

Convener: Timothy Hewson
Co-Convener: Victoria Sinclair
Poster area: Hall
1-minute espresso-talks: 14:00, Oceania AB

Chairperson: Victoria Sinclair

H75: EMS2016-628

Towards ultra-high resolution analyses in complex terrain
 Alexander Kann, Benedikt Bica, **Irene Schicker**
 Central Institute for Meteorology and Geodynamics, Department of Forecasting Models, Vienna, Austria
 (alexander.kann@zamg.ac.at)

H76: EMS2016-312

Cold-air pooling in the Cerdanya valley (Pyrenees)
 Daniel Martínez-Villagrassa, Laura Conangla, Gemma Simó, Maria Antonia Jiménez, Davide Tabarelli, Josep Ramon Miró, Rodrigo Picos, Álvaro López, Dino Zardi, Burkhard Wrenger, **Joan Cuxart**
 University of the Balearic Islands, Physics, Palma de Mallorca, Spain

H77: EMS2016-33

Verifications of the 14-16 May 2014 extreme precipitation in western Balkans simulated by the Eta model and WRF-NMM: A comparison of bias adjusted equitable threat score and extreme dependency score
Dragana Marjanovic, Katarina Veljovic
 University of Belgrade, Faculty of Physics, Institute of meteorology, Belgrade, Serbia
 (marjanovicdragana@yahoo.com)

END OF POSTER PROGRAMME NWP1

Thursday, 15 September 2016						
Room	Saturnia	Vulcania 1	Oceania AB	Oceania C	Vulcania 2	Room
09:00–10:30	ASI13: Energy Meteorology	MC2: Spatial Climatology	SE4: From weather and climate predictions to impact forecasts	NWP3: Data assimilation and use of observations in meteorology and oceanography	CE6: Research and services in atmospheric sciences supporting science education	09:00–10:30
10:30	Coffee Break					10:30
11:00–13:00	ASI13	MC2	ASi5: Modeling the dynamics of coupled atmosphere-wave-ocean processes	NWP3 until 11:30 NWP2: Numerical aspects and physical parametrization 11:30 Young Scientist Award Lecture	CE5: Education	11:00–13:00
13:00	Lunch Break					13:00
14:00–14:55	1-minute espressi-talks (poster intro) NWP4 (room Oceania AB)		Poster Session Cafè (espresso) provided 14:00–14:30		1-minute espressi-talks (poster intro) ASi14 (room Vulcania 1)	
	HALL: Poster boards H1-H75 MC2 – MC3 – SE4 CE6 NWP2 – NWP3 – NWP4		GALLERY: Poster boards G1-G52 ASi4 – ASi5 – ASi13 – ASi14			
15:00–17:00	ASI13	ASi14: Meteorological processes, atmospheric composition and pollution	NWP4: Probabilistic and ensemble forecasting at short and medium ranges	NWP2 until 16:30 MC3: Paleoclimatology and historical climatology	ASi5 until 15:30 ASi4: Coastal meteorology and oceanography	15:00–17:00
17:00	Refreshment Break					17:00
17:30–19:00	ASI13	ASi14	NWP4	MC3	ASi4	17:30–19:00
19:30	The EMS Festa					19:30

In the detailed daily programme (on pages 70 to 90) sessions are listed chronologically, according to the time for the oral presentations (09:00–10:30, 11:00–13:00, 15:00–17:00, and 17:30–19:00). Within each time block sessions are listed in the following order: ECAC (MC – SE), ASI, CE, NWP.

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 16:30–17:00. Posters that have not been removed within this dismantling time will be removed and disposed of.

Thursday, 09:00–10:30

MC2 Spatial Climatology

Lecture room: Vulcania 1

Convenor: Ole Einar Tveito

Co-Convenors: Mojca Dolinar; Christoph Frei

Chairperson: Ole Einar Tveito

09:00–09:15: EMS2016-88

1961–1990 high-resolution monthly precipitation climatologies for Italy

Alice Crespi, Maurizio Maugeri, Michele Brunetti

Department of Physics, Università degli Studi di Milano, Milan, Italy

09:15–09:30: EMS2016-477

Construction of a temperature and precipitation high resolution database in Catalonia for the 1970–2014 period. Analyses of recent climatic variability.

Vicent Altava-Ortiz, Antoni Barrera-Escoda, Mercè Barnolas, Mònica Herrero, Aleix Serra, Abdel Saïrouni, Marc J. Prohom

Meteorological Service of Catalonia, Barcelona, Spain (valtava@meteo.cat), Catalan Wildfire Prevention Service, Sta Perpètua de la Mogoda, Spain

09:30–10:00: EMS2016-254

Trends and variability of surface solar radiation in Europe based on CMSAF satellite data sets

Uwe Pfeifroth, Arturo Sanchez-Lorenzo, Jörg Trentmann

Deutscher Wetterdienst, Climate Monitoring, Offenbach, Germany (uwe.pfeifroth@dwd.de)

10:00–10:30: EMS2016-383

Developments to the E-OBS gridded dataset across Europe (solicited)

Richard Cornes, Else van den Besselaar, Gerard van der Schrier, Phil Jones, Ge Verver
Royal Netherlands Meteorological Institute, De Bilt, Netherlands, Climatic Research Unit, School of Environmental Sciences, University of East Anglia, Norwich, UK

ORAL PROGRAMME MC2 CONTINUES ON THURSDAY, 11:00

SE4 From weather and climate predictions to impact forecasts

Lecture room: Oceania AB

Convenor: Silvio Gualdi

Co-Convenor: Swadhin Behera

09:00–09:15:

2-minute espresso talks (poster introductions)

09:15–09:30: EMS2016-347

Cyclone-track based seasonal prediction for South Pacific tropical cyclone activity using APCC multi-model ensemble prediction

OK-Yeon Kim

APEC Climate Center, Busan, Korea, Republic Of (oykim@apcc21.org)

09:30–09:45: EMS2016-536

Forecasting Weather Impacts on the UK Telecommunication Network

Alan Halford, David Brayshaw, Stefan Thor Smith, Kjeld Jensen

University of Reading, TSBE Centre, Reading, United Kingdom (a.halford@pgr.reading.ac.uk)

09:45–10:00: EMS2016-108

Consistent bias correction/downscaling of different climate variables

Léonard Dekens, Mathilde Grandjacques, **Sylvie Parey**, Didier Dacunha-Castelle

EDF, R&D, CHATOU, France (sylvie.parey@edf.fr)

10:00–10:15: EMS2016-97

A Statistical Emulator For Prediction Of Crop Yield Response To Climate Change

Malcolm Mistry, Enrica Decian, Ian Sue Wing

Department of Economics, Ca' Foscari University, Venezia, Italy (malcolm.mistry@unive.it), Fondazione Eni Enrico Mattei (FEEM), Venezia, Italy

10:15–10:30: EMS2016-430

Adaptation of Mediterranean agriculture to future climate change scenarios: investigations on agronomic, productive and economic impact nexus in an irrigated and rain-fed farming district.

Dono Gabriele, Cortignani Raffaele, Dell'Unto Davide, Deligios Paola, Doro Luca, Lacetera Nicola, Mula Laura, **Pasqui Massimiliano**, Quaresima Sara, Roggero Pier Paolo, Vitali Andrea

CNR IBIMET - Consiglio Nazionale delle Ricerche, Istituto di Biometeorologia, Roma (Italy)

END OF ORAL PROGRAMME SE4

ASI13 Energy Meteorology

Lecture room: Saturnia

Convener: Sven-Erik Gryning

Co-Convenors: Ekaterina Batchvarova; Lucien Wald; Marion Schroedter-Homscheidt

Chairperson: Ekaterina Batchvarova

09:00–09:15: EMS2016-479

Weather and Power Information Tailored to the Needs of Renewable Energy Industry in a web-based GUI

Alexandros Bouras, Tobias Reinartz, Harald Kempf, Arne Wessel

Deutscher Wetterdienst, Offenbach, Germany
(alexandros.bouras@dwd.de)

09:15–09:30: EMS2016-614

Using high resolution reanalyses for renewable energy applications

Christopher Frank, Susanne Crewell, Jan Keller, Christian Ohlwein, Andreas Hense, Sabrina Wahl

Climate Monitoring Branch, Hans-Ertel-Centre for Weather Research, Germany, Institute for Geophysics and Meteorology, University of Cologne, Germany

09:30–09:45: EMS2016-90

The Smoothing Effect in an Afro-Eurasian Renewable Power Grid

Maria Krutova, Alexander Kies, **Bruno Schyska**, Lüder von Bremen

ForWind - Center for Wind Energy Research, University of Oldenburg, Germany (alexander.kies@uni-oldenburg.de), Institute of Physics, University of Oldenburg, Germany

09:45–10:00: EMS2016-366

Estimating the performance of wind-PV hybrid mini-grid systems for rural electrification in Africa

Thomas Huld, Irene Pinedo Pascua, Mario Marcello Miglietta, Fabio Monforti-Ferrario
European Commission Joint Research Centre, Renewables and Energy Efficiency Unit, Ispra, Italy

10:00–10:15: EMS2016-654

How Much Can Demand Side Management Contribute to Balance a Fully Renewable European Power System?

Alexander Kies, Bruno Schyska, Lüder von Bremen
ForWind - Center for Wind Energy Research, Oldenburg, Germany (alexander.kies@uni-oldenburg.de), Institute of Physics, University of Oldenburg, Oldenburg, Germany

10:15–10:30: EMS2016-189

Synthetic weather files for dynamic simulations of future building energy demand in Finland

Kirsti Jylhä, Kimmo Ruosteenoja, Juha Jokisalo, Targo Kalamees, Hanna Mäkelä, Reijo Hyvönen
Finnish Meteorological Institute, Helsinki, Finland
(kirsti.jylha@fmi.fi)

ORAL PROGRAMME ASI13 CONTINUES ON THURSDAY, 11:00

CE6 Research and services in atmospheric sciences supporting science education in schools and the general public

Lecture room: Vulcania 2

Convener: Heikki Tuomenvirta

Chairperson: Heikki Tuomenvirta

Reaching Citizens

09:00–09:15: EMS2016-704

Providing climate change information for user needs using visualization - Climateguide.fi portal

Sanna Luhtala, Juha A. Karhu, Tiina Ervasti

Finnish Meteorological Institute, Helsinki, Finland
(info@ilmasto-opas.fi)

09:15–09:30: EMS2016-743

Engaging citizens in the communication of climate sciences as an educational process

Michel Bourqui, Claudia Mignani, Cassandra Bolduc, Paul Charbonneau, Marie Charrière, Daniel Hill, Angélica López, Enrique Loubet, Philippe Roy, Barbara Winter

MSB Climate Science Communication, Zurich, Switzerland (michel.s.bourqui@gmail.com), Department of Physics, Université de Montréal, Montreal, Canada

Focusing on schools

09:30–09:45: EMS2016-58

High schoolers as researchers - Results from a Finnish science education project

Atte Harjanne, Tiina Ervasti, Juha Karhu, Heikki Tuomenvirta

Climate Services Centre, Finnish Meteorological Institute, Helsinki, Finland, School of Business, Aalto University, Helsinki, Finland

09:45–10:00: EMS2016-67

Wow Schools

Felicity Liggins, Richard Orrell, Dom Lethem, Lesley Challenger, Maria Dorothy, Tiaan Loubsar Met Office, Exeter, United Kingdom
(felicity.liggins@metoffice.gov.uk)

END OF ORAL PROGRAMME CE6

CE5 Education

Lecture room: Vulcania 2

Convener: Tomas Halenka

Co-Convener: Alessandro Chiariello

Chairperson: Tomas Halenka

10:00–10:15: EMS2016-739

Education on atmospheric processes by generation of new data using mobile sensors
 Roger Curcoll, Alba Àgueda, Lídia Cañas, **Eusebi Vazquez**, Claudia Grossi, Marta Comerma, Sílvia Borràs, Òscar Batet, Manel Nofuentes, Paola Occipinti, Xavier Rodó, Josep-Anton Morguí
 IC3 - Catalan Institute for Climate Sciences, Barcelona, Spain (contact: josep-anton.morgui@ic3.cat), Dept Ecology, University of Barcelona, Spain

10:15–10:30: EMS2016-431

Engaging students and teachers in meteorology and atmospheric sciences: the LaMMA activities
Valentina Grasso, Giorgio Bartolini, Riccardo Benedetti, Giulio Betti, Valerio Capecci, Bernardo Gozzini, Ramona Magno, Andrea Orlandi, Luca Rovai, Claudio Tei, Tommaso Torrigiani, Federica Zabini
 CNR Ibimet, Italian National Research Council, Florence, Italy (v.grasso@ibimet.cnr.it), LaMMA Consortium, Italian National Research Council, Florence, Italy

ORAL PROGRAMME CE5 CONTINUES ON THURSDAY, 11:00

NWP3 Data assimilation and use of observations in meteorology and oceanography

Lecture room: Oceania C

Convener: Alexander Cress

Co-Convener: Sarah Dance

Chairperson: Alexander Cress

09:00–09:15: 1-minute espresso talks (poster introductions)

09:15–09:30: EMS2016-61

Comparison between 3D-Var and 4D-Var data assimilation methods for the simulation of a heavy rainfall case in central Italy
Vincenzo Mazzarella, Ida Maiello, Vincenzo Capozzi, Giorgio Budillon, Rossella Ferretti
 Department of Science and Technology, University of Naples "Parthenope", Italy

09:30–09:45: EMS2016-487

Impact of GPS-Integrated Water Vapour assimilation in the simulation of heavy precipitation events in the western Mediterranean region
Alberto Caldas Álvarez, Samiro Khodayar
 Institute of Meteorology and Climate Research - Troposphere Research (IMK-TRO), Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany

09:45–10:00: EMS2016-660

Data assimilation from a continental-scale network of ground-based microwave radiometers into NWP
Domenico Cimini, Francesco De Angelis, Pauline Martinet, Olivier Caumont, Ulrich Löhnert, Leif-Leonard Kliesch
 CNR-IMAA, Potenza, Italy (domenico.cimini@imaa.cnr.it)

10:00–10:15: EMS2016-66

Assimilating all-sky SEVIRI infrared brightness temperatures using the KENDA ensemble data assimilation system

Axel Hutt, Jason Otkin, Hendrik Reich, Robin Faulwetter, Andreas Rhodin, Florian Harnisch, Martin Weissmann, Roland Potthast
 Deutscher Wetterdienst, Offenbach am Main, Germany (axel.hutt@dwd.de)

10:15–10:30: EMS2016-599

Data Assimilation Experiment of meteo-marine observations from a virtual collaborative fleet
Valerio Capecci, Riccardo Benedetti, Lorenzo Bottai, Gianni Messeri, Andrea Orlandi, Alberto Ortolani, Stefano Romanelli, Luca Rovai
 National Research Council, Institute of Biometeorology, Florence, Italy (capecchi@lamma.rete.toscana.it), LaMMA Consortium - Environmental Modelling and Monitoring Laboratory, Florence, Italy

ORAL PROGRAMME NWP3 CONTINUES ON THURSDAY, 11:00

Thursday, 11:00–13:00

MC2 Spatial Climatology

Lecture room: Vulcania 1

Convenor: Ole Einar Tveito

Co-Convenors: Mojca Dolinar; Christoph Frei

Chairperson: Ole Einar Tveito

11:00–11:15: EMS2016-582

A reference crop evapotranspiration database for Spain

Miquel Tomas-Burguera, Santiago Begueria, Sergio Vicente-Serrano, Marco Maneta
Estación Experimental de Aula DEI, Consejo Superior de Investigaciones Científicas (EEAD-CSIC), Zaragoza, Spain

11:15–11:45: EMS2016-679

Climate Grid - an open source gridding tool for climate monitoring

Dan Hollis, Ian Edwards, Mark McCarthy, Mike Kendon, Gareth Dow, Tim Legg, Ian Simpson
Met Office, Hadley Centre, Exeter, United Kingdom
(dan.hollis@metoffice.gov.uk)

11:45–12:15: EMS2016-174

From single estimates to ensembles: Quantifying uncertainties in spatial precipitation analyses over the Alps (solicited)

Christoph Frei, Francesco Isotta
Federal Office of Meteorology and Climatology,
MeteoSwiss, Zürich-Airport, Switzerland
(christoph.frei@meteoswiss.ch)

12:15–12:30: EMS2016-263

Objective climate classification of Slovenia

Katja Kozjek, Mojca Dolinar, Gregor Skok
University of Ljubljana, Faculty of Mathematics and Physics, Ljubljana, Slovenia (gregor.skok@fmf.uni-lj.si)

12:30–12:55:

1-minute espressi talks (poster introductions)

END OF ORAL PROGRAMME MC2

ASI5 Modeling the dynamics of coupled atmosphere-wave-ocean processes

Lecture room: Oceania AB

Convener: Sandro Carniel

Co-Convenors: Huw Lewis; Joanna Staneva; Alvise Benetazzo

Chairpersons: Sandro Carniel, Joanna Staneva, Huw Lewis

11:00–11:15: EMS2016-564

Air-sea coupling aspects in ECMWF Earth System model

Jean-Raymond Bidlot
ECMWF, Marine Prediction Section, Reading, United Kingdom (jean.bidlot@ecmwf.int)

11:15–11:30: EMS2016-124

UK Environmental Prediction - where atmosphere, sea and land meet at the convective scale

Huw Lewis, Juan Castillo, Joachim Fallmann, David Pearson, Alex Arnold, Andrew Sautler, Lucy Bricheno, Eleanor Blyth, Alberto Martinez de la Torre
Met Office, Exeter, United Kingdom
(huw.lewis@metoffice.gov.uk)

11:30–11:45: EMS2016-439

An operational coupled wave-ocean system for the Adriatic Sea

Alessandro Coluccelli, Francesco Memmola, Antonio Ricchi, Lorenzo Sangelantoni, Aniello Russo, Sandro Carniel, Tiziana Paccagnella, Andrea Valentini
Università Politecnica delle Marche, Department of Life and Environmental Sciences, Via Brecce Bianche, 60131 Ancona, Italy

11:45–12:00: EMS2016-42

Modelling a Tropical Like Cyclone in the western Mediterranean sea: a sensitivity study using a coupled atmosphere-ocean-wave approach

Antonio Ricchi, Mario Marcello Miglietta, Davide Bonaldo, Francesco Barbariol, Alvise Benetazzo, Francesco M. Falcieri, Aniello Russo, Mauro Sclavo, Sandro Carniel
Marche Polytechnic University, Marche Polytechnic University, Department of Life and Environmental Sciences, Piano di Sorrento, Italy
(aricky84@gmail.com)

12:00–12:15: EMS2016-29

The Draupner wave: a fresh look and the emerging view
Luigi Cavaleri, Francesco Barbariol, **Alvise Benetazzo**, Luciana Bertotti, Jean-Raymond Bidlot, Peter Janssen, Nils Wedi

Italian National Research Council - Institute of Marine Sciences, Venice, Italy

12:15–12:30:

1-minute espressi talks (poster introductions)

12:30–12:45: EMS2016-611

Development of a Coupled Atmosphere-Wave-Ocean Model for the UK

Lucy Bricheno, Juan Castillo, Judith Wolf

National Oceanography Centre, Marine Systems Modelling, Liverpool, United Kingdom (jaw@noc.ac.uk)

12:45–13:00: EMS2016-496

Coupled WAM/COSMO - Application to the Southern North Sea

Kathrin Wahle, Joanna Staneva, Wolfgang Koch, Luciana Fenoglio-Marc, Emil Stanev
(kathrin.wahle@hzg.de)

ORAL PROGRAMME ASI5 CONTINUES ON THURSDAY, 15:00

ASI13 Energy Meteorology

Lecture room: Saturnia

Convener: Sven-Erik Gryning

Co-Conveners: Ekaterina Batchvarova; Lucien Wald; Marion Schroedter-Homscheidt

Chairperson: Sven-Erik Gryning

11:00–11:15: EMS2016-35

Very short term wind power forecasting using shore-based scanning lidar observations over the Danish North Sea

Elliot Simon, Michael Courtney, Guillaume Léa
DTU Wind Energy (ellsim@dtu.dk)

11:15–11:30: EMS2016-171

The Wind Power Application Research Based on The Fusion of Deterministic and Ensemble Prediction

Lan Shi, LiNa Xu
China (lan_shi@sina.com)

11:30–11:45: EMS2016-377

Particle filtering and smoothing within an ultra large mesoscale ensemble for estimating wind energy

Jonas Berndt, Charlotte Hoppe, Hendrik Elbern
Forschungszentrum Juelich GmbH, Institute for Energy and Climate Research (IEK-8), Juelich, Germany
(j.berndt@fz-juelich.de), Rhenish Institute for Environmental Research at the University of Cologne (RIU), Cologne, Germany

11:45–12:00: EMS2016-442

Investigating short-term power fluctuations of large offshore wind farms

Daniel Drew, Janet Barlow, Phil Coker, David Brayshaw, Onduth Coceal
Department of Meteorology, University of Reading, Reading, UK

12:00–12:15: EMS2016-542

Probabilistic forecasting of wind power production losses in cold climates

Jennie P. Söderman, Henier Körnich, Esbjörn Olsson, Hans Bergström, Anna Sjöblom
Department of earth sciences, Uppsala University, Uppsala, Sweden
(jennie.persson.soderman@geo.uu.se)

12:15–12:30: EMS2016-649

Improved intraday power forecasts of unmeasured wind plants with weather predictions and nearby online power measurements

Stephan Vogt, Axel Braun, Scott Otterson, Malte Siebert, Jan Dobschinski
Fraunhofer IWES, Kassel, Germany

12:30–13:00:

1-minute espresso talks (poster introductions)

ORAL PROGRAMME ASI13 CONTINUES ON THURSDAY, 15:00

CE5 Education

Lecture room: Vulcania 2

Convener: Tomas Halenka

Co-Convener: Alessandro Chiariello

Chairperson: Tomas Halenka

11:00–11:15: EMS2016-691

Educational programs in atmospheric sciences for primary schools in Greece

Panos Giannopoulos, Nicoleta Ziakopoulou
Hellenic National Meteorological Service, Athens, Greece (pgiannop1@yahoo.com)

11:15–11:30: EMS2016-162

Using Hydroponics to Teach the Effects of Climate Change

Yukimasa Tsubota, Yumi Hara
J. F. Oberlin University, Natural Science Divisions, Atmospheric Science, Yokohama-shi, Japan
(tsubota@obirin.ac.jp)

11:30–11:45: EMS2016-68

Sandscape

Felicity Liggins, Ellen Dowell, Jamie Wardley, Claire Jamieson
Met Office, Exeter, United Kingdom
(felicity.liggins@metoffice.gov.uk)

11:45–12:00: EMS2016-699

MOOCs as a vehicle for delivering meteorological training

Sylvia Knight, **Felicity Liggins**
Met Office, United Kingdom
(felicity.liggins@metoffice.gov.uk)

12:00–12:15: EMS2016-539

IWAL-An Interactive Weather Analysis Laboratory
Michael Sprenger, Sebastian Limbach, Elmar Schömer, Heini Wernli
 ETH Zurich, Atmospheric and Climate Science, Zurich, Switzerland (michael.sprenger@env.ethz.ch)

12:15–12:30: EMS2016-652

Project-based learning: interactive weather forecast laboratory at the Eötvös Loránd University, Budapest
Ádám Leelóssy, Zsuzsanna Dezsö, Tamás Mona, Anna Zsilinszki, Attila Merics
 Eötvös Loránd University Department of Meteorology, Budapest, Hungary (leelossyadam@gmail.com)

END OF ORAL PROGRAMME CE5**NWP3 Data assimilation and use of observations in meteorology and oceanography**

Lecture room: Oceania C

Convener: Alexander Cress
Co-Convener: Sarah Dance

Chairperson: Alexander Cress

11:00–11:15: EMS2016-365

Bias correction of global irradiance modelled with the Weather Research and Forecasting model over Paraguay
Angel Rincon, Juan Gonzalez, Oriol Jorba, Leopoldo Alvarez, Miguel Frutos, Fernando Pio
 Engineering Faculty, National University of Asuncion (FIUNA), Asunción, Paraguay (angel.rincon.r@gmail.com)

11:15–11:30: EMS2016-575

Physically motivated covariance models for two-dimensional wind fields.
Ruediger Hewer, Petra Friederichs, Andreas Hense, Martin Schlather
 Meteorological Institute, University Bonn, Bonn Germany (rhewer@uni-bonn.de)

END OF ORAL PROGRAMME NWP3;

ORAL PROGRAMME OF NWP2 CONTINUES IN THIS ROOM

NWP2 Numerical aspects and physical parametrization integration in NWP models

Lecture room: Oceania C

Convener: Daniel Reinert
Co-Convener: Guy de Morsier

Dynamical Core Development**Young Scientist Award lecture by Giovanni Tumolo****11:30–12:00: EMS2016-305**

A p-adaptive approach for high order numerical weather prediction
Giovanni Tumolo, Luca Bonaventura, Graziano Giuliani
 The Abdus Salam ICTP, Trieste, Italy (gtumolo@ictp.it), OGS, Trieste, Italy

12:00–12:15: EMS2016-289

Sloping steps Eta: Monotonic horizontal diffusion and Gallus-Klemp test
Fedor Mesinger, Jorge Gomes, Gustavo Sueiro, Dušan Jović, Sin Chan Chou
 Serbian Academy of Sciences and Arts, Belgrade, Serbia (fedor.mesinger@gmail.com), National Institute for Space Research (INPE), Cachoeira Paulista, SP, Brazil

12:15–12:30: EMS2016-415

Heat flux parameterization and entropy production
Almut Gaßmann
 IAP, Kühlungsborn, Germany (gassmann@iap-kborn.de)

12:30–12:45: EMS2016-778

KIAPS next generation global model
Young Kwon
 Korea Institute of Atmospheric Prediction Systems (KIAPS)

12:45–13:00:

1-minute espresso talks (poster introductions)

ORAL PROGRAMME NWP2 CONTINUES ON THURSDAY, 15:00

Thursday, 15:00–17:00

MC3 Paleoclimatology and historical climatology

Lecture room: Oceania C

Convener: Rudolf Brázdil

Co-Conveners: Ricardo García-Herrera; J. Fidel González-Rouco

Chairperson: Rudolf Brázdil

16:30–16:45: EMS2016-596

Simulation and inversion of borehole temperature profiles in surrogate climates: last millennium LULC influence on Spatial distribution and surface coupling
Camilo Andres Melo-Aguilar, J. Fidel Gonzalez-Rouco, Elena Garcia-Bustamante, **Jorge Navarro-Montesinos** CIEMAT, Dpto. Energías Renovables, Madrid, Spain

16:45–17:00: EMS2016-589

Revisiting East Asia temperature and its associated uncertainty over the last 2k from reconstructions and climate simulations

Elena García-Bustamante, J. Fidel González-Rouco, Laura Fernández-Donado, Juerg Luterbacher, Johann Jungclaus
CIEMAT, Dpt. of Energy, Madrid, Spain
(elgarcia@ucm.es)

ORAL PROGRAMME MC3 CONTINUES ON THURSDAY, 17:30

ASI5 Modeling the dynamics of coupled atmosphere-wave-ocean processes

Lecture room: Vulcania 2

Convener: Sandro Carniel

Co-Conveners: Huw Lewis; Joanna Staneva; Alvise Benetazzo

Chairpersons: Huw Lewis, Alvise Benetazzo

15:00–15:15: EMS2016-306

LES of Interfacial Dynamics in Air-Sea Systems

Santiago Lopez Castano, Vincenzo Armenio
Research Assistant, DICA, University of Trieste, TS, Italy (santiago.lopezcastano@phd.units.it)

15:15–15:30: EMS2016-397

Wave-Current Interactions in the Southern North Sea: The Impact on Salinity
Emil Stanev, **Sebastian Grashorn**, Julia Schloen
Helmholtz-Zentrum Geesthacht, Institute for Coastal Research, Geesthacht, Germany (sebastian.grashorn@hzg.de)

**END OF ORAL PROGRAMME ASI5;
ORAL PROGRAMME OF ASI4 CONTINUES IN THIS ROOM**

ASI4 Coastal meteorology and oceanography

Lecture room: Vulcania 2

Convener: Mario Marcello Miglietta

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

Chairperson: Silvio Gualdi

15:30–15:45: EMS2016-13

Simulations with the oceanographic model AdriaROMS: sensitivity to the horizontal resolution and sea surface forcing

Lidia Bressan, Andrea Valentini, Tiziana Paccagnella, Andrea Montani, Chiara Marsigli
Regional environmental agency of Emilia-Romagna, Hydro-meteo-climate service (Arpaem-SIMC), Bologna, Italy (lbressan@arpa.emr.it)

15:45–16:00: EMS2016-241

Sirocco and Bora, intense air-sea exchanges and heavy orographic precipitation

Silvio Davolio, Paolo Stocchi
ISAC - CNR, Bologna, Italy (s.davolio@isac.cnr.it)

16:00–16:15: EMS2016-747

Western Iberia Summer Wind Regime

Nádia Rijo, Alvaro Semedo, Pedro M. A. Miranda, Daniela C. A. Lima, Rita M. Cardoso, Pedro M. M. Soares

Naval Academy - CINAV, Portugal, Instituto Dom Luiz, University of Lisbon, Lisbon, Portugal

16:15–16:30: EMS2016-646

Coastal flooding: coupled model system for the German Bight

Joanna Staneva, Kathrin Wahle, Wolfgang Koch, Emil Stanev
HZG, Institute for Coastal Research, Geesthacht, Germany (joanna.staneva@hzg.de)

16:30–16:45: EMS2016-27

Numerical simulations of a tornadic supercell in the Mediterranean

Mario Marcello Miglietta, Jordi Mazon, Richard Rotunno
ISAC-CNR, Lecce, Italy (m.miglietta@isac.cnr.it)

16:45–17:00:

1-minute espressi talks (poster introductions)

ORAL PROGRAMME ASI4 CONTINUES ON THURSDAY, 17:30

ASI13 Energy Meteorology

Lecture room: Saturnia

Convenor: Sven-Erik Gryning

Co-Convenors: Ekaterina Batchvarova; Lucien Wald; Marion Schroedter-Homscheidt

Chairperson: Lucien Wald

15:00–15:15: EMS2016-56

Changes in Weather in Future Decades

Alan Gadian, Ralph Burton, James Groves, Alan Blyth, James Warner, Greg Holland, Cindy Bruyere, James Done, Jutta Thielen

University of Leeds, Earth and Environment, National Centre for Atmospheric Sciences, Leeds, United Kingdom (alan@env.leeds.ac.uk)

15:15–15:30: EMS2016-293

An offshore climatology of anomalous wind events

Peter Kalverla, Reinder Ronda, Gert-Jan Steeneveld, Bert Holtslag

Wageningen University, Meteorology and Air Quality Section, Wageningen, Netherlands (peter.kalverla@wur.nl)

15:30–15:45: EMS2016-455

Predictability assessment of climate predictions within the context of the New European Wind Atlas project (NEWA)

Verónica Torralba, Albert Soret, Sergio Lozano, Nicola Cortesi
Barcelona Supercomputing Center (BSC), Barcelona, Spain (veronica.torralba@bsc.es)

15:45–16:00: EMS2016-257

EMHIRES: European Meteorological derived High resolution RES generation time series for present and future scenarios

Iratxe Gonzalez-Aparicio, Andreas Zucker, Fabio Monforti-Ferrario, Thomas Huld, Jake Badger
Energy Technology Policy Outlook Unit, European Commission, Joint Research Centre, Institute for Energy and Transport, Petten, The Netherlands

16:00–16:15: EMS2016-563

Investigating continental-scale synchronicity of wind power national productions in the EU with different meteorological datasets.

Fabio Monforti-Ferrario, Thomas Huld, Iratxe Gonzalez-Aparicio, Andreas Zucker, Mario Marcello Miglietta, Marta Poncela Blanco, Gianluca Fulli
Renewable Energy Unit, European Commission, Joint Research Centre, Institute for Energy and Transport

16:15–16:30: EMS2016-28 (EMS YSTA)

Roughness length for coastal waters from wave boundary layer model

Jianting Du, Xiaoli Larsén, Rodolfo Bolaños
Department of Wind Energy, Technical University of Denmark, 4000 Roskilde, Denmark

16:30–16:45: EMS2016-221

Weather Dependent Upscaling Algorithms for European Wind Power

Bruno U. Schyska, António Couto, Lüder von Bremen, Ana Estanqueiro
University of Oldenburg – ForWind Center for Wind Energy Research, Oldenburg, Germany (bruno.schyska@forwind.de)

16:45–17:00: EMS2016-570

Characterizing atmospheric stability and roughness lengths for wind resource assessment in complex terrain

Ben Crawford, Adrian Matangi, James Griffiths, Andreas Christen, Andy Black
Department of Meteorology, University of Reading, Reading, United Kingdom, Sea Breeze Power Corp., Vancouver, Canada, Department of Geography, University of British Columbia, Vancouver, Canada

ORAL PROGRAMME ASI13 CONTINUES ON THURSDAY, 17:30

ASI14 Meteorological processes, atmospheric composition and pollution, including CAMS related activities

Lecture room: Vulcania 1

Convenor: Charles Chemel

Co-Convenors: Martin Piringer; Alexander Baklanov; Astrid Manders; V.-H. Peuch

Chairperson: Charles Chemel

15:00–15:30: EMS2016-771

Coastal ozone in sea breeze circulation: episode analysis by mean of aircraft measurements and mesoscale modelling in Naples (solicited)

Sandro Finardi, Daniele Gasbarra, Giuseppe Calori, Alessio D'Allura, Beniamino Gioli, Giuseppe Agrillo, Pantaleone Carlucci, Luca Shindler, Vincenzo Maglilio ARIANET Srl, Milano, Italy

15:30–15:45: EMS2016-586

Validation of WRF/Chem Model and Sensitivity of Chemical Mechanisms to Ozone Simulation over Megacity Delhi

Medhavi Gupta, Manju Mohan
Centre for Atmospheric Sciences, Indian Institute of Technology Delhi, India

15:45–16:00: EMS2016-62

Study on the Cause of Hazy Weather in Beijing and Its Surrounding Areas

Rong Zhu
National Climate Center, China Meteorological Administration, Beijing, China (rongzhu@cma.gov.cn)

16:00–16:15: EMS2016-400

Diurnal cycle and turbulence evaluated by remote sensing and numerical weather prediction model during a winter stable period

Guylaine Canut, Pauline Martinet, Alexandre Paci, Tiphaine Sabatier
CNRM, Météo-France UMR 3589 CNRS, Toulouse, France

16:15–16:30: EMS2016-20

PBL height by radiosounding data and the pollution with PM10 in Sofia valley

Orlin Gueorguiev, Elena Hristova, Blagorodka Veleva, Maria Kolarova
National Institute of Meteorology and Hydrology, Sofia, Bulgaria (orlin.gueorguiev@meteo.bg)

16:30–16:45: EMS2016-659

Validation of dispersions models using Cabauw field experiments

Gertie Geertsema, Marko Kaasik
KNMI, R&D Weather and Climate Models, De Bilt, Netherlands (gertie@knmi.nl)

16:45–17:00: EMS2016-494

Stability classes from operational ceilometers

Gabriele Rau, Martin Piringer
Central Institute for Meteorology & Geodynamics, Environmental Meteorology, Vienna, Austria (martin.piringer@zamg.ac.at)

ORAL PROGRAMME ASI14 CONTINUES ON THURSDAY, 17:30

NWP2 Numerical aspects and physical parametrization integration in NWP models

Lecture room: Oceania C

Convener: Daniel Reinert

Co-Convener: Guy de Morsier

Chairperson: Guy de Morsier

Physical Parameterization Development and Evaluation

15:00–15:15: EMS2016-195

Small-scale orographic gravity wave drag in stable boundary layers and its impacts on synoptic systems and near surface meteorology

Aristofanis Tsiringakis, Gert-Jan Steeneveld, **Bert Holtslag**

Wageningen University, Meteorology and Air Quality Section, Wageningen, Netherlands (gertjan.steeneveld@wur.nl)

15:15–15:30: EMS2016-680

A parametrization of the vertical overlap of clouds based on wind-shear

Francesca Di Giuseppe, Adrian Mark Tompkins
ECMWF, Reading, (nen@ecmwf.int)

15:30–15:45: EMS2016-686

A PDF based parameterization of microphysical variability in cumulus convective clouds

Yefim Kogan
NorthWest Research Associates, San Diego, United States (ykogan@ou.edu)

15:45–16:00: EMS2016-352

Techniques for Sensitivity Analysis of Spatial Features in Forecasts: The Stochastic Kinetic Energy Backscatter Scheme

Caren Marzban, Natalia Hryniw, Robert Tardif, Scott Sandgathe
Univ. of Washington, Department of Statistics, Seattle, WA 98195 USA (marzban@stat.washington.edu), Univ. of Washington, Applied Physics Laboratory, Seattle, WA 98195 USA

16:00–16:15: EMS2016-742

High resolution model simulation of Urban Heat Island for a medium sized Hungarian city

András Zénó Gyöngyösi, Gergely Molnár, Tamás Gál
Department of Climatology and Landscape Ecology, University of Szeged, Szeged, Hungary (zeno@nimbus.elte.hu)

16:15–16:30: EMS2016-93

Accurate numerical solution and analytical approximation for the wind profile over flat terrain

Ulf Janicke, Lutz Janicke
Janicke Consulting, Environmental Physics, Überlingen, Germany (info@janicke.de)

**END OF ORAL PROGRAMME NWP2;
ORAL PROGRAMME MC3 CONTINUES IN THIS ROOM**

NWP4 Probabilistic and ensemble forecasting at short and medium-ranges

Lecture room: Oceania AB

Convener: Andrea Montani

Co-Conveners: Jan Barkmeijer; Fernando Prates

Chairperson: Andrea Montani

15:00–15:30: EMS2016-769

The SRNWP-EPS Programme, an overview

José A. Garcia-Moya, Francesca Marcucci, **Chiara Marsigli**

Arpaee-SIMC, Bologna, Italy (cmarsigli@arpa.emr.it)

15:30–15:45: EMS2016-768

Fog forecasting methods: review and application

Mario Papa
EUMETNET/COMET-Centro Operativo per la Meteorologia, Rome, Italy

15:45–16:00: EMS2016-562

Spatial temperature calibration of a multi-model ensemble using a NGR approach with local anomalies
Irene Schicker, Moritz Lang, Alexander Kann, Yong Wang

Zentralanstalt für Meteorologie und Geodynamik - ZAMG, Vienna, Austria (irene.schicker@zamg.ac.at)

16:00–16:15: EMS2016-193

Temporal Ensemble Post-Processing with Standardized Anomalies

Markus Dabernig, Georg J. Mayr, Jakob W. Messner, Achim Zeileis
 University of Innsbruck, Institute of Atmospheric and Cryospheric Sciences, Innsbruck, Austria
 (markus.dabernig@uibk.ac.at)

16:15–16:30: EMS2016-427

Constrained genetic algorithms for ensemble prediction model parameter setting

Adrian Mark Tompkins
 ICTP, Earth System Physics, Trieste, Italy
 (tompkins@ictp.it)

16:30–16:45: EMS2016-261

Improving ECMWF 6-h maximum rain with non-linear methods and instability indices

Agostino (Tino) Manzato, Arturo Pucillo
 ARPA Friuli Venezia Giulia, OSMER, Visco, Italy
 (agostino.manzato@osmer.fvg.it)

16:45–17:00: EMS2016-86

Mesoscale hydrology-oriented verification of different probabilistic precipitation forecasts: highlighting their complementarity

Joseph Bellier, Isabella Zin, Guillaume Bontron, Stanislas Siblot, Matthieu Lafaysse
 LTÉ, Université Grenoble Alpes, Grenoble, France

ORAL PROGRAMME NWP4 CONTINUES ON THURSDAY, 17:30



Thursday, 17:30–19:00

MC3 Paleoclimatology and historical climatology

Lecture room: Oceania C

Convener: Rudolf Brázdil

Co-Conveners: Ricardo García-Herrera; J. Fidel González-Rouco

Chairperson: J. Fidel González-Rouco

17:30–17:45: EMS2016-114

European summer hot temperatures events and the atmospheric circulation during the last Millennium

M. Carmen Alvarez-Castro, Davide Faranda, Pascal Yiou

Laboratoire des sciences du climat et de l'environnement (LSCE), Université Paris-Saclay, LSCE, Gif-sur-Yvette, France (carmen.alvarez-castro@lsce.ipsl.fr)

17:45–18:00: EMS2016-76

Environmental factors affecting sensitivity of Oak (*Quercus* spp.) ring width chronologies to hydroclimate

Petr Dobrovolný, Michal Rybníček, Ulf Büntgen, Miroslav Trnka, Rudolf Brázdil, Zdeněk Stachoň, Ondřej Prokop, Tomáš Kolář

Masaryk University, Department of Geography, Brno, Czech Republic, Global Change Research Institute, Czech Academy of Sciences, Brno, Czech Republic

18:00–18:15: EMS2016-106

Spatio-temporal variability of windstorms in the Czech Lands derived from documentary evidence

Rudolf Brázdil, Petr Dobrovolný, Peter Szabó, Ladislava Řezníčková, Oldřich Kotyza, Hubert Valášek, Lukáš Dolák, Silvie Suchánková

Masaryk University, Institute of Geography, Brno, Czech Republic (brazdil@sci.muni.cz), Global Change Research Institute CAS, Brno, Czech Republic

18:15–18:30: EMS2016-143

Main Characteristics of Tornadoes in Estonia and Latvia

Andres Tarand

Tallinn, Estonia (andres.tarand@gmail.com)

18:30–18:45: EMS2016-391

A reconstruction of the August 1st 1674 thunderstorms over Holland

Gerard van der Schrier, Rob Groenland

Royal Netherlands Meteorological Institute, De Bilt, Netherlands

18:45–19:00: EMS2016-249

A comparison of the 2009 and 2015-16 flooding in Ireland and its historical context

Kieran Hickey

Ireland (kieran.hickey@ucc.ie)

END OF ORAL PROGRAMME MC3

ASI4 Coastal meteorology and oceanography

Lecture room: Vulcania 2

Convener: Mario Marcello Miglietta

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

Chairperson: Mario Marcello Miglietta

17:30–17:45: EMS2016-553

On the evaluation of the ability of different Reanalyses in representing Coastal Low-Level Jets

Daniela C. A. Lima, Alvaro Semedo, Pedro M. M. Soares, Rita M. Cardoso

Instituto Dom Luiz, University of Lisbon, Lisbon, Portugal (dclima@fc.ul.pt)

17:45–18:00: EMS2016-396

The marine atmospheric boundary layer during the HyMeX/ASICS-MED campaign: observations and simulations under strong wind conditions

Guylaine Canut, Pierre Etienne Brilouet, Pierre Durand CNRM, Météo-France UMR 3589 CNRS, Toulouse, France

18:00–18:15: EMS2016-34

Assessing the quality of Synthetic Aperture Radar (SAR) wind retrieval in coastal zones using multiple Lidars

Tobias Ahsbahs, Ioanna Karagali, Xiaoli Guo Larsén, Merete Badger

Wind Energy, Technical University of Denmark (DTU)

18:15–18:30: EMS2016-219

Advection boundary layer rolls over the Baltic Sea

Nina Svensson, Hans Bergström, Erik Sahlée, Erik Nilsson, Anna Rutgersson

Department of Earth Sciences, Uppsala University, Uppsala, Sweden (nina.svensson@geo.uu.se)

18:30–18:45: EMS2016-239

Role of the phase transition of intraseasonal oscillation on the South China Sea summer monsoon onset

Xie Shao, Ping Huang, Ronghui Huang

China Meteorological Administration, Beijing, China (shaoxie@cma.gov.cn)

END OF ORAL PROGRAMME ASI4

ASI13 Energy Meteorology

Lecture room: Saturnia

Convener: Sven-Erik Gryning

Co-Convenors: Ekaterina Batchvarova; Lucien Wald; Marion Schroedter-Homscheidt

Chairperson: Ekaterina Batchvarova

17:30–17:45: EMS2016-506

Wind farm efficiency assessed by WRF with a statistical-dynamical approach

Patrick J. H. Volker, Jake Badger, Andrea N. Hahmann

Danish Technical University, Windenergy, Roskilde, Denmark (pvol@dtu.dk)

17:45–18:00: EMS2016-398

A hybrid model for the wind profile (direction and speed) for the whole boundary layer

Sven-Erik Gryning, Ekaterina Batchvarova
Technical University of Denmark, Wind Energy Department, Roskilde, Denmark (sveg@dtu.dk)

18:00–18:15: EMS2016-483

Estimating wind speeds at wind turbines with ARMAX models using Lidar measurements

Ashim Giyanani, Wim Beerbooms, Gerard van Bussel Delft University of Technology, Wind Energy Research Group, Faculty of Aerospace Engineering, Delft, Netherlands (a.giyanani@tudelft.nl)

18:15–18:30: EMS2016-651

Determination of wind velocity components and its characteristics in the wake of a full scale wind turbine using short-range ground-based synchronized WindScanners

Hasan Yazicioglu, Nikolas Angelou, Torben Mikkelsen
Danish Technical University, Wind Energy, Roskilde, Denmark (tomi@dtu.dk)

18:30–18:45: EMS2016-522

Investigation of the flow in complex terrain with regard to wind-energy research using the small remotely piloted aircraft MASC

Alexander Rautenberg, Jan Anger, Christoph Schulz, Jens Bange
Zentrum für Angewandte Geowissenschaften, Universität Tübingen, Tübingen, Germany

18:45–19:00: EMS2016-657

Noise levels and environmental impact assessments: effect of different Weibull-fit parameters.

Gertie Geertsema
KNMI, R&D Weather and Climate Models, De Bilt, Netherlands (gertie@knmi.nl)

END OF ORAL PROGRAMME ASI13

ASI14 Meteorological processes, atmospheric composition and pollution, including CAMS related activities

Lecture room: Vulcania 1

Convener: Charles Chemel

Co-Convenors: Martin Piringer; Alexander Baklanov; Astrid Manders; V.-H. Peuch

Chairperson: Vincent-Henri Peuch

17:30–17:45: EMS2016-381

The CAMS radiation service in a nutshell

Marion Schroedter-Homscheidt, Antti Arola, Niels Killius, Mireille Lefevre, Laurent Saboret, William Wandji, Lucien Wald, Etienne Wey
DLR, German Remote Sensing Data Center, Oberpfaffenhofen, Germany (marion.schroedter-homscheidt@dlr.de)

17:45–18:00: EMS2016-159

A case study of the June 2013 Biomass-Burning Haze event using WRF-Chem

Yaasiin Oozeer, Andy Chan, Jun Wang, Santo Salinas, Ooi Maggie Chel Gee, Choong Wee Kang
Faculty of Engineering, University of Nottingham Malaysia Campus, Semenyih, Selangor, Malaysia

18:00–18:15: EMS2016-524

Direct radiative feedback due to biogenic secondary organic aerosol estimated from boreal forest site observations

Heikki Lihavainen, Eija Asmi, Veijo Aaltonen, Ulla Makkonen, Veli-Matti Kerminen
Finnish Meteorological Inst., Research & Development, Helsinki, Finland (heikki.lihavainen@fmi.fi)

18:15–18:30: EMS2016-571

Modelling of an extreme dust event in the Eastern Mediterranean with ICON-ART - Impact on local circulation systems in the Dead-Sea region

Philipp Gasch, Daniel Rieger, Carolin Walter, Bernhard Vogel
Institute of Meteorology and Climate Research, Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany, philipp.gasch@student.kit.edu

18:30–18:45: EMS2016-286

Observation of volcanic aerosol in the stratosphere over Western Siberia

Alexander Cheremisin, Valery Marichev, Pavel Novikov
Siberian Federal University, Krasnoyarsk, Russian (aacheremisin@gmail.com), Krasnoyarsk Railway Institute, Krasnoyarsk, Russia (novikov-pv@yandex.ru)

18:45–19:00: EMS2016-685

Modelling and assessment of particulate matter at rural background stations in Europe

Goran Gašparac, Amela Jeričević
Geophysical and Ecological Modeling Ltd, Zagreb, Croatia

END OF ORAL PROGRAMME ASI14

NWP4 Probabilistic and ensemble forecasting at short and medium-ranges

Lecture room: Oceania AB

Convener: Andrea Montani

Co-Conveners: Jan Barkmeijer; Fernando Prates

Chairperson: Fernando Prates

17:30–18:00: EMS2016-605

GRAPES-REPS Mesoscale Ensemble Prediction System: methodology and evaluation

Jing Chen, Hanbin Zhang, Xiaoli Li, Yinglin Li, Li Gao, Yuanzhe Wang, Guo Deng
(chenj@cma.gov.cn), Numerical Weather Prediction Center, CMA

18:00–18:15: EMS2016-668

The global ICON Ensemble at DWD

Michael Denhard, Cristina Primo, Felix Fundel, Andreas Rhodin, **Ana Fernandez del Rio**, Harald Anlauf, Alexander Cress, Michael Buchold, Roland Pothast
Deutscher Wetterdienst, Offenbach, Germany
(Ana.Fernandez-del-Rio@dwd.de)

18:15–18:30: EMS2016-380

Use of TIGGE-LAM ensemble datasets for the prediction of high-impact weather events

Andrea Montani, Chiara Marsigli, Tiziana Paccagnella
Arpaee-SIMC, HydroMeteoClimate Service of Emilia-Romagna Region, Bologna, Italy
(amontani@arpa.emr.it)

18:30–18:45: EMS2016-248

Large scale skill of the Eta against its driver ECMWF
32-day ensemble

Katarina Veljovic, Fedor Mesinger
University of Belgrade, Faculty of Physics, Institute of Meteorology, Serbia (katarina@ff.bg.ac.rs)

18:45–19:00: EMS2016-151

gSREPS: AEMET New Mesoscale Ensemble Prediction System. First objective verification

Jose A. Garcia-Moya, Alfons Callado, Pau Escriba, Carlos Santos, Marc Compte, Antonio Manzano, Alberto Martin, Jesus Rodriguez
Spanish Agency of Meteorology, AEMET, Madrid, Spain

END OF ORAL PROGRAMME NWP4

Posters Thursday, 14:00–14:55

MC2 Spatial Climatology

Convener: Ole Einar Tveito
Co-Conveners: Mojca Dolinar, Christoph Frei
Poster area: Hall
1-minute espresso-talks: 12:30, Vulcania 1

Chairpersons: Mojca Dolinar, Christoph Frei and Ole Einar Tveito

H1: EMS2016-300

High-resolution analysis of 1 day extreme precipitation in a wet area centred over eastern Liguria

Andrea Bertolini, Michele Brunetti, Maurizio Maugeri
 Institute of Atmospheric Sciences and Climate, CNR, Bologna, Italy

H2: EMS2016-177

High resolution daily gridded precipitation dataset for Spain

Roberto Serrano-Notivoli, Santiago Beguería, Miguel Ángel Saz, José María Cuadrat, Luis Alberto Longares, Martín de Luis
 Estación Experimental de Aula Dei, Consejo Superior de Investigaciones Científicas (EEAD-CSIC), Zaragoza., Zaragoza, Geography and Regional Planning, Zaragoza, Spain (rs@unizar.es)

H3: EMS2016-215

Evolution of the AURELHY method for spatial analysis of precipitation and temperature climatological fields over France.

Pierre Lassègues, **Anne-Laure Gibelin**, Claire Canellas, Pascal Simon
 Météo-France, DCSC, Toulouse, France
 (pierre.lassegues@meteo.fr)

H4: EMS2016-235

Daily and climatological fields of precipitation and temperature over the western Alps

Pierre Lassègues, **Anne-Laure Gibelin**
 Météo-France, DCSC, Toulouse, France
 (pierre.lassegues@meteo.fr)

H5: EMS2016-544

New 1981-2010 climatological normal and comparison to previous 1961-1990 and 1971-2000 normals for temperature, precipitation and humidity in Croatia

Irena Nimac, Melita Perćec Tadić
 Meteorological and hydrological service of Croatia, Zagreb, Croatia (irena.nimac@cirus.dhz.hr)

H6: EMS2016-457

Spatial analyses of the air temperature and thermal indices in the Tatra Mountains.

Katarína Mikulová, Elwira Žmudzka, Pavol Nejedlík
 Slovak Hydrometeorological Institute, Bratislava, Slovakia

H7: EMS2016-521

Temporal and spatial variability of air temperature inversions over Europe based on ERA-Interim reanalysis

Angelika Palarz
 Poland (angelika.palarz@doctoral.uj.edu.pl)

H8: EMS2016-735

Evaluation of gridding procedures for temperature over Southern Africa

Kai-Uwe Eiselt, Jens O. Riede, Stefan Krähenmann, **Frank Kaspar**
 Deutscher Wetterdienst, National Climate Monitoring, Offenbach, Germany (frank.kaspar@dwd.de)

H9: EMS2016-671

Monthly gridded dataset for sunshine duration over Slovenia

Mojca Dolinar
 Slovenian Environment Agency, Climatology section, Ljubljana, Slovenia (m.dolinar@gov.si)

H10: EMS2016-363

Assessment of spatial variation of extreme wind speeds

Mikko Laapas, Ari Venäläinen, Pentti Pirinen, Matti Horttanainen, Reijo Hyvönen, Ilari Lehtonen, Päivi Junila, Heli Peltola
 Finnish Meteorological Institute, Finland (mikko.laapas@fmi.fi)

H11: EMS2016-332

A Multi-Purpose Multi-Site Stochastic Weather Generator

Martin Dubrovský, Radan Huth
 Institute of Atmospheric Physics, Praha, Czechia (dub@ufa.cas.cz), Global Change Research Institute, Czech Academy of Sciences, Brno, Czechia

END OF POSTER PROGRAMME MC2

MC3 Paleoclimatology and historical climatology

Convenor: Rudolf Brázdil

Co-Convenors: Ricardo García-Herrera, J. Fidel

González-Rouco

Poster area: Hall

Chairperson: Rudolf Brázdil

H12: EMS2016-32 (EMS YSTA)

Hydrometeorological extremes and their impacts in the Jihlava region (Czech Republic) in the 1651-1880 period

Lukáš Dolák, Rudolf Brázdil, Katerina Chroma, Hubert Valášek, Monika Belinová, Ladislava Řežníčková
Masaryk University, Institute of Geography, Brno, Czech Republic (dolak@mail.muni.cz), Global Change Research Institute CAS, Brno, Czech Republic

H13: EMS2016-240

Climatic effects and impacts of the 1815 Tambora eruption in the Czech Lands

Rudolf Brázdil, **Ladislava Řežníčková**, Hubert Valášek, Lukáš Dolák, Oldřich Kotyza
Department of Geography, Masaryk University, Brno, Czech Republic (ladkar@sci.muni.cz), Global Change Research Institute, Czech Academy of Sciences, Brno, Czech Republic

H14: EMS2016-515

Documentary series of Tiber floods in Rome: 2000 years of interactions between the town and the river. A focus on the LIA period.

Silvia Enzi, Mirka Sghedoni
KLEIO' Ass., Padova, Italy (silvia.enzi@gmail.com)

H15: EMS2016-690

A simple and cost-effective approach for assessing the uncertainties in gridded data

Juha Aalto, Pentti Pirinen, Kirsti Jylhä
Finnish Meteorological Institute, P.O. Box 503, FI-00101 (juha.aalto@fmi.fi), Department of Geosciences and Geography, University of Helsinki, P.O. Box 64, Gustaf Hällströmin katu 2a, 00014 Helsinki, Finland

END OF POSTER PROGRAMME MC3

SE4 From weather and climate predictions to impact forecasts

Convenor: Silvio Gualdi

Co-Convenor: Swadhin Behera

Poster area: Hall

1-minute espresso-talks: 09:00, Oceania AB

H37: EMS2016-200

Long-lead station-scale prediction of hydrological droughts in South Korea based on bivariate pattern-based downscaling

Soo-Jin Sohn, Chi-Yung Tam

APEC Climate Center, Climate Research Department, Busan, Korea, Republic Of (jeenie7@apcc21.org)

H38: EMS2016-202

Predictability of the East Asian Winter Monsoon in APCC Multi-Model Ensemble Forecast System

Sun-Hee Shin

APEC Climate Center, Busan, Korea, Republic Of (ssh222@apcc21.org)

H39: EMS2016-341

The effect of dynamical downscaling with GCM bias corrections on simulated climate over East Asia

Yoo-Bin Yhang, Chang-Mook Lim

APEC climate center, Busan, Korea, Republic Of (ybyhang@apcc21.org)

H40: EMS2016-382

Analysing the hydrological impacts of climate change at a small catchment scale

Anna Kis, János Adolf Szabó, Rita Pongrácz, Judit Bartholy

Eötvös Loránd University, Department of Meteorology, Budapest, Hungary (kisanna@nimbus.elte.hu)

H41: EMS2016-452

Tailored seasonal climate predictions for wind energy users

Verónica Torralba, Francisco Doblas-Reyes, Isadora Christel, Llorenç Lledó, Nube González-Reviriego, Albert Soret

Barcelona Supercomputing Center (BSC), Barcelona, Spain (veronica.torralba@bsc.es)

H42: EMS2016-597

Exposure to climate change hazards: A challenge in a risk analysis framework

Maddalen Mendizabal, Benat Abajo, José Martínez, Efren Feliu, **Santiago Gaztelumendi**

Meteorology Area, Energy and Environment Division, TECNALIA R&I, Basque Country, Spain

END OF POSTER PROGRAMME SE4

ASI4 Coastal meteorology and oceanography

Convenor: Mario Marcello Miglietta

Co-Convenors: Anna Maria Sempreviva, Manel Grifoll, Silvio Gualdi

Poster area: Gallery

1-minute espressi-talks: 16:45, Vulcania 2

Chairperson: Mario Marcello Miglietta

G2: EMS2016-250

Severe sea-effect snowfall on Finnish coasts

Taru Olsson, Anna Luomaranta, Matti Kämäräinen, Pauli Jokinen, Terhi Laurila, Kirsti Jylhä
Finnish Meteorological Institute, Climate Service Centre, Helsinki, Finland

G3: EMS2016-351

Effects of tidal flat and urbanization on surface meteorological fields in a major coastal city of Korea

Ju-Hee Jeong, Yoo-Keun Kim, Zang-Ho Shon
Department of Atmospheric Sciences, Pusan National University, Busan, Korea, Republic Of (jeongjuhee@pusan.ac.kr)

G5: EMS2016-631

Sea Surface temperature influences on the summer coast parallel winds offthe west coast of Iberia

Nádia Rijo, Alvaro Semedo, Pedro M. A. Miranda, Pedro M. M. Soares, Rita M. Cardoso
Naval Academy - CINAV,Lisbon, Portugal, Instituto Dom Luiz, University of Lisbon, Lisbon, Portugal

END OF POSTER PROGRAMME ASI4

ASI5 Modeling the dynamics of coupled atmosphere-wave-ocean processes

Convener: Sandro Carniel

Co-Convenors: Huw Lewis, Joanna Staneva, Alvise Benetazzo

Poster area: Gallery

1-minute espressi-talks: 12:15, Oceania AB

Chairpersons: Joanna Staneva, Alvise Benetazzo

G6: EMS2016-552

Effect of the wave-induced forcing on the North Sea NEMO during extreme storms

Joanna Staneva, Victor Alari, Øyvind Breivik, Jean-Raymond Bidlot, Kristian Mogensen
HZG, Institute for Coastal Research, Geesthacht, Germany (joanna.staneva@hzg.de)

G7: EMS2016-152

Teleconnections and extreme ocean states in the North Atlantic using the EC-Earth and WaveWatchIII models

Emily Gleeson, Sarah Gallagher, Colm Clancy, Frederic Dias
Met Éireann, Glasnevin Hill, Dublin D09 Y921, Ireland (emily.gleeson@met.ie)

G8: EMS2016-448

Modeling turbulent heat fluxes during an extreme Bora event in the Adriatic using atmosphere-ocean coupling

Matjaž Ličer, Peter Smerkol, Anja Fettich, Michalis Ravdas, Alexandros Papapostolou, Anneta Mantzafou, Benedikt Strajnar, Jure Cedilnik, Maja Jeromel, Jure Jerman, Sašo Petan, Alvise Benetazzo, Sandro Carniel, Vlado Malačič, Sarantis Sofianos
Marine Biology Station Piran, Slovenia

G9: EMS2016-637

A sensitivity study using the WRF model of a flash flood event occurred over southern Italy

Antonio Ricchi, Vincenzo Mazzarella, Vincenzo Capozzi, Guido Cioni, Ida Maiello, Giorgio Budillon, Rossella Ferretti, Aniello Russo, Sandro Carniel
Marche Polytechnic University, Marche Polytechnic University, Department of Life and Environmental Sciences, Ancona , Italy (aricky84@gmail.com)

G10: EMS2016-725

Wind Sea and Swell Waves along Eastern Boundary Currents

Alvaro Semedo, Pedro Soares, Gil Lemos
Escola Naval-CINAV, Lisbon, Portugal, Instituto Dom Luiz, University of Lisbon, Lisbon, Portugal

G11: EMS2016-750

Investigating extreme events using the Coupled Ocean Atmosphere Wave Sediment Transport Modeling System (COAWST).

John C. Warner, Francesco Barbatiol, Alvise Benetazzo, Francesco M. Falcieri, Jeffrey List, Maria Liste, Mario Marcello Miglietta, William C. Schwab, **Antonio Ricchi**, Aniello Russo, Ilgar Sakaf, Mauro Sclavo, Sandro Carniel
Univ. Politecnica delle Marche, Ancona, Italy

G12: EMS2016-780

Future Wave Power Projections in the North Atlantic Sub-Basin from a Single-Model, Single-Forcing and Single-Scenario Ensemble
 Gil Lemos, Arno Behrens, Mikhail Dobrynin, Pedro M. A. Miranda, **Alvaro Semedo**, Joanna Staneva
 Instituto Dom Luiz, University of Lisbon, Lisbon, Portugal, Escola Naval-CINAV, Lisbon, Portugal
 (milho.semedo@marinha.pt)

END OF POSTER PROGRAMME ASI5

ASI13 Energy Meteorology

Convenor: Sven-Erik Gryning

Co-Convenors: Ekaterina Batchvarova, Lucien Wald, Marion Schroedter-Homscheidt

Poster area: Gallery

1-minute espresso-talks: 12:30, Saturnia

Chairperson: Marion Schroedter-Homscheidt

G20: EMS2016-446

Solar power forecasting: application of the NMMB/BSC-CTM on-line chemical weather prediction model in central Europe

Albert Soret, Sara Basart, Daniel Ortega, Matthias Piot
 Barcelona Supercomputing Center, Barcelona, Spain
 (albert.soret@bsc.es)

G21: EMS2016-212

Predictability of outlier forecast error using TIGGE ensemble forecasts

Fumichika Uno, Hideaki Otake, Takashi Oozaki, Yoshinori Yamada
 National Institute of Advanced Industrial Science and Technology, Research Center for Photovoltaics, Japan
 (uno.fumichika@aist.go.jp)

G22: EMS2016-184

Cloud nowcasting based on the combined use of MSG cloud estimates and the WRF NWP model.

Clara Arbizu-Barrena, Jose Antonio Ruiz-Arias, Samuel Quesada-Ruiz, Javier Rodriguez-Benitez, Joaquin Tovar-Pescador, Francisco Santos-Alamillos, David Pozo-Vazquez
 MATRAS Group., Physics Department, University of Jaen, Spain. Spain (dpozo@ujaen.es)

G23: EMS2016-339

Testing several models describing the change in surface solar irradiance with solar zenith angle in cloud-free skies

Benoit Gschwind, Zhipeng Qu, Philippe Blanc, **Lucien Wald**
 MINES ParisTech - PSL Research University, Sophia Antipolis cedex, France (lucien.wald@mines-paristech.fr)

G24: EMS2016-538

Evaluating regional change in performance of several databases in Arabic Peninsula
Mathilde Marchand, Nasser Al-Azri, Armel Ombe-Ndefotsing, Etienne Wey, Lucien Wald
 Transvalor, France
 (mathilde.marchand@transvalor.com)

G25: EMS2016-392

Validation of simple Solar Radiation models for some sites in Bulgaria
Vanya Maneva, Dimiter Atanasov, Nadya Neykova, Anton Petrov
 Bulgaria (vanya.maneva@meteo.bg)

G26: EMS2016-179

Automatic cloud type classification based on the combined used of a sky camera and a ceilometer
 Javier Huertas-Tato, **Javier Rodriguez-Benitez**, Clara Arbizu-Barrena, Ricardo Aler-Mur, Ines Galvan-Leon, David Pozo-Vazquez
 MATRAS Res. Group, Department of Physic, University of Jaén, 23071, Jaén, Spain (dpozo@ujaen.es)

G27: EMS2016-128

Different behaviour of short-wave bands of solar radiation in relation to photosynthetically active radiation in dependence on weather and solar elevation angle
Marie Opálková, Martin Navrátil, Vladimír Špunda
 Department of Physics, Faculty of Science, University of Ostrava, Ostrava, Czech Republic
 (P13181@student.osu.cz)

G28: EMS2016-423

Remote sensing for wind and solar resource assessment in port area in South Italy
 Rosamaria Calaudi, Teresa Lo Feudo, **Claudia Roberta Calidonna**, Anna Maria Sempreviva
 Institute of Atmospheric Science and Climate, C.N.R., Lamezia Terme (CZ), Italy

G29: EMS2016-369

A spatial data infrastructure dedicated to the interoperable exchange of meteorological measurements in renewable energies
 Lionel Menard, Philippe Blanc, Benoit Gschwind, **Lucien Wald**
 MINES ParisTech - PSL Research University, Sophia Antipolis cedex, France (lucien.wald@mines-paristech.fr)

G30: EMS2016-518

Optimization of WRF Forecasts for Renewable Energy Applications in Italy
Carmen Köhler, Fabrizio Ruffini
 i-EM S.r.l., Livorno, Italy (carmen.koehler@i-em.eu)

G31: EMS2016-52

Analysis and probabilistic forecast of wind power generation and ramp in Japan based on multi-model ensembles

Masamichi Ohba, Daisuke Nohara, Shinji Kadokura
 Central research institute of electric power industry, Environmental Science Research Laboratory, Abiko, Japan (oba-m@criepi.denken.or.jp)

G32: EMS2016-721

The impacts of long term climate change on wind energy resources in Hungary
Csilla Peline Nemeth, Judit Bartholy, Rita Pongracz, Kornelia Radics
 Geoinformation Service of HDF, Budapest, Hungary
 (pelinenemeth.csilla@mtehi.gov.hu)

G33: EMS2016-336

Comparing monthly statistical distributions of wind speed measured at wind towers and estimated from ERA-Interim
 Colin Harpham, Alberto Troccoli, Philip Jones, Thierry Ranchin, **Lucien Wald**
 MINES ParisTech - PSL Research University, Sophia Antipolis cedex, France (lucien.wald@mines-paristech.fr)

G35: EMS2016-541

Wind measurements in tall masts in Estonia
Marko Kaasik, Steffen Noe
 Institute of Agricultural and Environmental Sciences, Estonian University of Life Sciences, Estonia
 (steffen.noe@emu.ee)

G36: EMS2016-451

Corrosion in offshore wind energy: assessment of marine aerosol concentration using the BSC-CALIOPE air quality modelling system in Europe
Albert Soret, Daniel Ortega, María Teresa Pay, Daniel Cabezón, Llorenç Lledó
 Barcelona Supercomputing Center, Barcelona, Spain (albert.soret@bsc.es)

G37: EMS2016-137

Standard L Distribution Accumulative Function Table
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)

END OF POSTER PROGRAMME ASI13**ASI14 Meteorological processes, atmospheric composition and pollution, including CAMS related activities**

Convener: Charles Chemel

Co-Conveners: Martin Piringer, Alexander Baklanov, Astrid Manders, V.-H. Peuch

Poster area: Gallery

1-minute espresso-talks: 14:00, Vulcania 1

Chairperson: Martin Piringer

G38: EMS2016-11 (EMS YSTA)

The impact of atmospheric blocking in Western Siberia on the methane emissions in summer

Olga Antokhina, Pavel Antokhin, Mikhail Arshinov, Boris Belan, Denis Davidov, Alexandr Fofonov V.E. Zuev Institute of Atmospheric Optics, Siberian Branch of Russian Academy of Science (IAO SB RAS), Tomsk, Russia (apn@iao.ru)

G39: EMS2016-129

Influence of atmospheric pollution on spectral composition of incident solar radiation

Eva Gavelčíková, Marie Opálková, Martin Navrátil, Vladimír Špunda
 Department of Physics, Faculty of Science, University of Ostrava, Ostrava (gavelcikovaeva@seznam.cz)

G40: EMS2016-198

Quantitative recognition of PLAM index on impacts of emissions and meteorological conditions to the "93 Beijing Blue"

Li Duo
 National Climate Center

G41: EMS2016-673

Spatial climatology of air pollution in Slovenia using data fusion

Mojca Dolinar, Marko Rus
 Slovenian Environment Agency, Climatology section, Ljubljana, Slovenia (m.dolinar@gov.si)

G42: EMS2016-696

Consistency between the global and regional modeling components of Copernicus Atmospheric Monitoring Service

Eleni Katragkou, Dimitrios Akritidis, Serafim Kontos, Prodromos Zanis, Dimitrios Melas, Henk Eskes
 Department of Meteorology and Climatology, School of Geology, Aristotle University of Thessaloniki, Thessaloniki 54124, Greece (katragou@auth.gr)

G43: EMS2016-438

Dispersion modelling over complex terrain in the Bolzano basin in the Alps: comparison of CALPUFF results with diagnostic and prognostic input fields.

Elena Tomasi, Lorenzo Giovannini, Marco Falocchi, Gianluca Antonacci, **Dino Zardi**
 Atmospheric Physics Group, Department of Civil, Environmental and Mechanical Engineering, University of Trento, Trento, Italy (dino.zardi@unitn.it), National Consortium of Universities for Atmospheric and Hydropheric Physics (CINFAI), Rome, Italy

G44: EMS2016-480

Validation of gas phase chemistry modules used in WRF/chem model on domain including Europe
Jan Karlicky, Peter Huszar, Tomas Halenka
 Department of Atmospheric Physics, Charles University in Prague, Czech Republic (Jan.Karlicky@mff.cuni.cz)

G45: EMS2016-537

Detailed Contributions of Foreign and Domestic Emissions to Particulate Matter over South Korea Forecasted with WRF and UM models
Eunhye Kim, Soontae Kim, Hyun Cheol Kim, Byeong Uk Kim, Jeonghoon Cho
 Ajou University, Korea, Republic Of (kiesloveeh@ajou.ac.kr)

G46: EMS2016-501

Monitoring of atmospheric trace gases in Budapest by mobile measurements
 Róbert Mészáros, **Ádám Leelőssy**, Péter Csapó, Balázs Boda, Attila Kovács, István Lagzi
 Department of Meteorology, Eotvos Lorand University, Budapest, Hungary (mrobi@nimbus.elte.hu)

G47: EMS2016-572

Desert dust over a Caribbean island with North West Atlantic air masses
 Jack Molinié, **Lovely Euphrasie-Clotilde**, Tony Feuillard, Francenor Brute
 LaRGE, Université des Antilles, Pointe-A-Pitre, Guadeloupe (jack.molinie@univ-ag.fr)

END OF POSTER PROGRAMME ASI14

CE6 Research and services in atmospheric sciences supporting science education in schools and the general public

Convener: Heikki Tuomenvirta
Poster area: Hall

H51: EMS2016-453

Climate Atlas of Slovakia
Katarína Mikulová, Pavel Šťastný, Pavol Nejedlík, Peter Kajaba, Maroš Turňa
 Slovak Hydrometeorological Institute, Bratislava, Slovakia

END OF POSTER PROGRAMME CE6

NWP2 Numerical aspects and physical parametrization integration in NWP models

Convener: Daniel Reinert

Co-Convener: Guy de Morsier

Poster area: Hall

1-minute espressi-talks: 12:45, Oceania C

Chairperson: Daniel Reinert

H53: EMS2016-511

The ECMWF OpenIFS model and reduced numerical precision in weather forecasting
Glenn Carver, Filip Váňa, Simon Lang, Martin Leutbecher, Deborah Salmond, Peter Dueben, Tim Palmer
 European Centre for Medium-Range Weather Forecasts (ECMWF), Reading, UK

H54: EMS2016-670

Results from the recent Dynamical Core Model Intercomparison Project (DCMIP2016) for ICON
Daniel Reinert, Marco Giorgetta, Günther Zängl
 Deutscher Wetterdienst, Offenbach am Main, Germany (daniel.reinert@dwd.de)

H55: EMS2016-230

Evaluation of the influence of non-hydrostatic processes in development of tropical convection using Global Eta Framework(GEF)
Dragan Latinovic, Sin Chan Chou, Miodrag Rancic
 CPTEC/INPE, Cachoeira Paulista,SP, Brazil (dragan.latinovic@cptec.inpe.br)

H56: EMS2016-622

Benefits of convection-permitting simulations in the non-hydrostatic regional climate model REMO-nh
Lennart Marien, Thomas Raub, Kevin Sieck, Lars Bunteleyer, Daniela Jacob
 Climate Service Center Germany (GERICS), Hamburg, Germany

H57: EMS2016-307

Simulations of deep convection as a testbed for two fine-scale models
Didier Ricard, Antoine Verrelle
 CNRM (Météo-France, CNRS), CNRM, Toulouse, France (didier.ricard@meteo.fr)

H58: EMS2016-565

Ensemble of different planetary boundary layer schemes in WRF model for wind speed and direction prediction over Apulia region
 Andrea Tateo, Francesca Fedele, Menegotto Micaela, **Roberto Bellotti**
 Dipartimento Interateneo di Fisica, Università degli Studi di Bari A. Moro, Bari, Italy, Istituto Nazionale di Fisica Nucleare, Sezione di Bari, Bari, Italy

H59: EMS2016-648

Simulating Airflow over Small Water Surfaces with WRF-OpenFOAM Coupled Model in the Upper East Region of Ghana

Ali Abbasi, Frank Ohene Annor, Nick van de Giesen, Camille le Coz

Faculty of Civil Engineering and Geosciences, Water Resources Section, Delft University of Technology, Delft, Netherlands

H60: EMS2016-424

Specification of urban canopy parameters for better understanding the thermal structure in case of Szeged, Hungary

Gergely Molnár, András Zénó Gyöngyösi, Tamás Gál
Department of Climatology and Landscape Ecology, University of Szeged, Szeged, Hungary
(molnare@geo.u-szeged.hu)

H61: EMS2016-444

Impacts of Terminal Velocity and Drop Size Distribution Shape on the Numerical Simulation of Precipitation

Donghai Wang
LaSW, Chinese Academy of Meteorological Sciences, Beijing, China (wangdh@cams.cma.gov.cn)

H62: EMS2016-610

Verification of Rapid Update Cycle Prediction system Situation Field and Precipitation Forecasts Using Station Datasets over Northwest China

Xianyu Yang, Jun Wen, Yaqiong Lu, Jianglin Li
Cold and Arid Environmental and Engineering Research Institute, Chinese Academy of Sciences, Lanzhou 730000, China (xyyang@lzb.ac.cn)

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: Hall

1-minute espressi-talks: 09:00, Oceania C

Chairperson: Alexander Cress

H63: EMS2016-169

Using mobile observations in road weather forecasting

Virve Karsisto, Pertti Nurmi
Finnish Meteorological Institute, Helsinki, Finland
(virve.karsisto@fmi.fi)

H65: EMS2016-466

The evaluation of soil moisture analyses at KMA using in situ observations around Korean peninsula

Hae-Mi Noh, Mee-Ja Kim, SeiYoung Park, Sangwon Joo
Numerical Data Application Division, Numerical Modeling Bureau, Korea, Republic Of

H66: EMS2016-486

Lightning data assimilation to improve the RAMS short-term precipitation forecast

Stefano Federico, Giulia Panegrossi, Marco Petracca, Stefano Dietrich
ISAC-CNR, Rome, Italy (s.federico@isac.cnr.it)

H68: EMS2016-513

Assimilation of hyperspectral IR radiances over land using a principal components based representation of surface emissivity

Kristin Raykova, Christina Köpken-Watts, Andreas Rhodin, Olaf Stiller, Anne Walter, Robin Faulwetter, Roland Potthast
Deutscher Wetterdienst, Meteorological Analysis and Modelling, Offenbach, Germany
(kristin.raykova@dwd.de)

END OF POSTER PROGRAMME NWP3

NWP4 Probabilistic and ensemble forecasting at short and medium-ranges

Convener: Andrea Montani

Co-Conveners: Jan Barkmeijer, Fernando Prates

Poster area: Hall

1-minute espressi-talks: 14:00, Oceania AB

Chairperson: Jan Barkmeijer

H69: EMS2016-98

Calibration of probabilistic forecast of temperature in Pyeongchang area using statistical postprocessing methods

Chansoo Kim, Keunhee Han

Kongju National University, Applied Mathematics, Kongju, Korea, Republic Of (chanskim@kongju.ac.kr)

H70: EMS2016-173

Verification of ensemble precipitation forecasts for hydrological modelling in the Czech Republic

Martin Vokoun

Czech University of Life Sciences Prague, Department of Water Resources and Environmental Modeling, Prague, Czech Republic (vokounm@fzp.czu.cz)

H71: EMS2016-245

Probabilistic Wind Speed Predictions with an Analog Ensemble

Iris Odak Plenkovic, Luca Delle Monache, Kristian Horvath, Mario Hrastinski, Alica Bajic
Meteorological and Hydrological Service, Zagreb, Croatia

H72: EMS2016-412

Calibrated COSMO-DE-EPS wind forecasts for energy application

Tobias Heppelmann, Zied Ben Boualleh, Susanne Theis
Deutscher Wetterdienst, Research and Development, Offenbach, Germany (tobias.heppelmann@dwd.de)

END OF POSTER PROGRAMME NWP4



Friday, 16 September 2016						
Room	Saturnia	Vulcania 1	Oceania AB	Oceania C	Vulcania 2	Room
09:00–10:30	UC1: Climate change detection, assessment of trends, variability and extremes	10:15: 1-min espressi-talks; NWP7-AM5/UC3	AM6/NWP5: Subseasonal-to-seasonal (s2s) predictions and societal applications	OBS2: High-resolution precipitation monitoring for impact assessment and climate-related applications	ASI10: Interfacing hydrological and meteorological models in forecasting system 10:15: 1-min espressi-talks: ASI11	09:00–10:30
10:30–11:30	Coffee Break & Poster Session HALL: Poster boards H1-H75 UC1 AM5/UC3, AM6/NWP5 NWP7					GALLERY: Poster boards G1-G52 ASI10, ASI11 OBS2
11:30–13:00	UC1	NWP7: Mesoscale Verification Inter-Comparison over Complex Terrain (MesoVICT)	AM6/NWP5	OBS2	ASI11: Urban climate	11:30–13:00
13:00	Lunch Break					13:00
14:00–16:00	UC1	AM5/UC3: Climate Forecast Verification	AM6/NWP5	OBS2	ASI11	14:00–16:00
16:15	Small reception, announcement poster award winner 2016, closing: Foyer Hall					16:15

In the detailed daily programme (on pages 92 to 104) sessions are listed chronologically, according to the time for the oral presentations (09:00–10:30, 11:30–13:00, and 14:00–16:00). Within each time block sessions are listed in the following order: ECAC (UC), AM, ASI, NWP, OBS.

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 16:30–17:00. Posters that have not been removed within this dismantling time will be removed and disposed of.

Friday, 09:00–10:30

UC1 Climate change detection, assessment of trends, variability and extremes

Lecture room: Saturnia

Convener: Albert M.G. Klein Tank

Co-Conveners: Monika Lakatos; Martine Rebetez

Heat waves

09:00–09:15: EMS2016-421

Comparison of various definitions of heat and cold waves in Europe

Peter Bissolli, Hermann Mächel, Stefan Rösner, Maya Körber, Andrea Kreis
Deutscher Wetterdienst, Offenbach, Germany
(peter.bissolli@dwd.de)

09:15–09:30: EMS2016-84

Heat waves characterization over France in present and future climate

Jean-Michel Soubeyroux, Gaelle Ouzeau, Michel Schneider
Direction de la Climatologie et des Services Climatiques, Météo-France, Toulouse, France

09:30–09:45: EMS2016-702

Heatwaves variability and long term changes in central Poland

Joanna Wibig
University of Lodz, Meteorology and Climatology, Lodz, Poland (zameteo@uni.lodz.pl)

09:45–10:00: EMS2016-379

The 2010 eastern European heat wave in a future climate

Lucinda Rasmijn, **Gerard van der Schrier**, Jan Barkmeijer, Andreas Sterl, Wilco Hazeleger
Royal Netherlands Meteorological Institute, De Bilt, Netherlands

Poster pitches

10:00–10:30:

1-minute espresso talks (poster introductions)

ORAL PROGRAMME UC1 CONTINUES ON FRIDAY, 11:30

AM6/NWP5 Subseasonal-to-seasonal (s2s) predictions and societal applications

Lecture room: Oceania AB

Convener: Ángel G. Muñoz

Co-Conveners: Laura Ferranti; Joanne Robbins; Andrew W. Robertson; Adrian Tompkins; Frederic Vitart

Chairperson: Angel G Munoz

09:00–09:30:

Modes, predictability and skill

Adrian Mark Tompkins
ICTP, Earth System Physics, Trieste, Italy
(tompkins@ictp.it)

09:30–09:45: EMS2016-82

Structure and Evolution Characteristics of Atmospheric Intraseasonal Oscillation during Wet and Dry summers over Yangtze River Basin in China

Yanjun Qi
Chinese Academy of Meteorological Sciences, Beijing, China (qyj198836@sina.com)

09:45–10:00: EMS2016-185

Modulation of Indonesian rainfall variability by the Madden-Julian Oscillation

Rahmat Hidayat
Indonesia (rahmath@apps.ipb.ac.id)

10:00–10:15: EMS2016-80

Subseasonal-to-seasonal (S2S) forecasts with CNRM-CM : a case study on the July 2015 West-European heat wave

Constantin Ardilouze, Lauriane Batté, Michel Déqué
CNRM, Météo-France and CNRS, Toulouse, France
(constantin.ardilouze@meteo.fr)

10:15–10:30:

1-minute espresso talks (poster introductions)

ORAL PROGRAMME AM6/NWP5 CONTINUES ON FRIDAY, 11:30

ASI10 Interfacing hydrological and meteorological models in forecasting system

Lecture room: Vulcania 2

Convener: Massimiliano Zappa

Co-Conveners: Herbert Formayer; Louise Crochemore

Chairperson: Massimiliano Zappa

09:00–09:15: EMS2016-120

Hydrological skill of different sources of PQPF: a case study on the French upper Rhone

Joseph Bellier, Stanislas Siblot, Guillaume Bontron, Isabella Zin
Université Grenoble Alpes, Laboratoire d'étude des Transferts en Hydrologie et Environnement, Grenoble, France

09:15–09:30: EMS2016-753

Seamless seasonal hydrological ensemble predictions over Europe

Fredrik Wetterhall
European Centre for Medium Range Weather Forecasts, Reading, United Kingdom
(fredrik.wetterhall@ecmwf.int)

09:30–09:45: EMS2016-164

Post-processing of monthly hydrological forecasts in Switzerland

Konrad Bogner, Samuel Monhart, Luzi Bernhard, Michael Schirmer, Massimiliano Zappa
Swiss Federal Institute for Forest, Snow and Landscape Research WSL, Birmensdorf, Switzerland
(konrad.bogner@wsl.ch)

09:45–10:00: EMS2016-304

Operational hydro-meteorological monitoring and forecasts over France using the SAFRAN-SURFEX-MODCOU model chain

François Besson, Fabienne Regimbeau, Michèle Blanchard, Christian Viel, Pierre Etchevers, Mathieu Papazzoni, Anne-Lise Beaulant, Patrick Le Moigne, Eric Martin, Florence Habets
DCSC, METEO FRANCE, Toulouse, France
(francois.besson@meteo.fr)

10:00–10:01:

1-minute espressi talks (poster introductions)

END OF ORAL PROGRAMME ASI10

10:15–10:30:

1-minute espressi-talks (poster introductions) of ASI11

OBS2 High-resolution precipitation monitoring for impact assessment and climate-related applications

Lecture room: Oceania C

Convener: Tanja Winterrath

Co-Conveners: Andreas Becker; Auguste Gires; Katharina Lengfeld; Vincenzo Levizzani; Aart Overeem; Marie-claire ten Veldhuis; Markus Ziese

Chairperson: Marie-claire ten Veldhuis

09:00–09:15: EMS2016-276

Daily updates of the high-resolution gridded dataset E-OBS

Else van den Besselaar, Gerard van der Schrier, Richard Cornes
Royal Netherlands Meteorological Institute (KNMI), De Bilt, Netherlands (besselaar@knmi.nl)

09:15–09:30: EMS2016-404

South East Asia gridded data set of precipitation for 1998–2015 period using TRMM retrievals and selected rain gauge data for climate monitoring

Igor Stepanov, Gerard van der Schrier, Else van den Besselaar, Richard Cornes
Royal Netherlands Meteorological Institute, De Bilt, Netherlands, Delft University of Technology, Geoscience and Remote Sensing, Delft, Netherlands (i.stepanov@tudelft.nl)

09:30–09:45: EMS2016-406

Assessment of high-resolution gridded precipitation data uncertainty in an Alpine catchment

Lavinia Laiti, Alberto Bellin, Bruno Majone, Stefano Mallucci, Sebastiano Piccolroaz, Dino Zardi
Civil, Environmental and Mechanical Engineering Department, University of Trento, Trento, Italy

09:45–10:00: EMS2016-613

Quantifying the spatial summer precipitation variability in a highly glacierized catchment: the case study of the Arve catchment (Chamonix) in the French Alps

Thomas Condom, Isabella Zin, Delphine Six, Catherine Coulaud, Frederic Gottardi, Laarman Olivier, Morin Samuel, Lebel Thierry, Matthieu Lafaysse, Charles Obled, Christian Vincent, Vincent Vionnet
LTHE (UMR 5564, CNRS-IRD-Grenoble INP-UGA)

10:00–10:15: EMS2016-395

Measurements of precipitation in a coastal region of Antarctica

Jacopo Grazioli, Christophe Genton, Alexis Berne EPFL, EPFL-ENAC-IIE-LTE, Switzerland
(jacopo.grazioli@epfl.ch)

10:15–10:30:

1-minute espressi-talks (poster introductions)

ORAL PROGRAMME OBS2 CONTINUES ON FRIDAY, 11:30

Friday, 11:30–13:00

UC1 Climate change detection, assessment of trends, variability and extremes

Lecture room: Saturnia

Convenor: Albert M.G. Klein Tank

Co-Convenors: Monika Lakatos; Martine Rebetez

Precipitation extremes

11:30–11:45: EMS2016-46

Trends and mechanisms behind extreme hourly precipitation

Mendy van der Vliet, Peter Siegmund, Willem Jan van de Berg
Royal Netherlands Meteorological Institute, De Bilt, The Netherlands, Utrecht University, The Netherlands

11:45–12:00: EMS2016-333

Study of changes in precipitation extremes over the Eastern Mediterranean during 1961–2012

Shifa Mathbout, Joan Albert Lopez Bustins, Javier Martin-Vide, Fernando Sánchez Rodrigo, Joan Bech Rustullet
University of Barcelona, Q-0818001-J U00400025 U00400025, Physical Geography and Regional Geographical Analysis, Barcelona, Spain (shifamathbout@yahoo.com)

12:00–12:15: EMS2016-534

An analysis of sub-daily rainfall to characterise long term trends in UK rainfall

Mark McCarthy
Met Office, Hadley Centre, Exeter, United Kingdom (mark.mccarthy@metoffice.gov.uk)

12:15–12:30: EMS2016-710

Anthropogenic signals in global and regional precipitation variability and extremes: detection and quantification of change using scaling fluctuation analysis

Isabel de Lima, Shaun Lovejoy
Civil Engineering Department, University of Coimbra, 3030-788 Coimbra, Portugal (iplima@uc.pt), Institute of Marine Research (IMAR) and Marine and Environmental Sciences Centre (MARE), Portugal

12:30–12:45: EMS2016-551

Emerging trends in heavy precipitation and hot temperature extremes in Switzerland

Simon C. Scherrer, Erich M. Fischer, Rebekka Posselt, Mark A. Liniger, Mischa Croci-Maspoli, Reto Knutti
Federal Office of Meteorology and Climatology MeteoSwiss, Zurich, Switzerland (simon.scherrer@meteoswiss.ch)

12:45–13:00: EMS2016-130

Impact of climate change on runoff timing over the Alpine region

Erika Coppola, Francesca Raffaele, Filippo Giorgi
The Abdus Salam International Centre for Theoretical Physics, Earth System Physics Section, Trieste, Italy (coppolae@ictp.it)

ORAL PROGRAMME UC1 CONTINUES ON FRIDAY, 14:00

AM6/NWP5 Subseasonal-to-seasonal (s2s) predictions and societal applications

Lecture room: Oceania AB

Convenor: Ángel G. Muñoz

Co-Convenors: Laura Ferranti; Joanne Robbins; Andrew W. Robertson; Adrian Tompkins; Frederic Vitart

Chairperson: Adrian Tompkins

11:30–11:45: EMS2016-337

Statistical approaches for diagnosing and applying sources of forecast skill to subseasonal predictions

Nathaniel Johnson, Jiaxin Black, Daniel Harnos, Michelle L'Heureux, Stephen Baxter, Steven Feldstein Princeton University/NOAA GFDL, Princeton, NJ United States (Nathaniel.Johnson@noaa.gov)

11:45–12:00: EMS2016-516

Verification of the CNR-ISAC sub-seasonal prediction system

Daniele Mastrangelo, Piero Malguzzi
CNR-ISAC, Bologna, Italy (d.mastrangelo@isac.cnr.it)

12:00–12:15: EMS2016-435

Verification of subseasonal forecasts of drought indices

Christoph Spirig, Jonas Bhend, Samuel Monhart, Mark Liniger

MeteoSwiss, Analysis and Forecasting, Zurich, Switzerland (christoph.spirig@meteoswiss.ch)

12:15–12:30: EMS2016-65

Predictability of heat waves over West Africa in subseasonal and seasonal reforecasts with CNRM-CM

Lauriane Batté, Constantin Ardilouze, Michel Déqué CNRM, UMR 3589 Météo-France/CNRS, Toulouse, France (lauriane.batte@meteo.fr)

12:30–12:45: EMS2016-684

Atmospheric cryptography: Using weather regimes to 'crack the code' of subseasonal-to-seasonal extreme rainfall events

Ángel G. Muñoz, Gabriel Vecchi, Xiaosong Yang, Lisa Goddard, Andrew W. Robertson
NOAA/GFDL, Princeton University, NJ, USA (angel.g.munoz@noaa.gov), International Research Institute for Climate and Society (IRI), Columbia University, NY, USA

12:45–13:00: EMS2016-708

Harnessing butterflies for improved monthly, seasonal, and interannual forecasts

Shaun Lovejoy, Lenin Lenin Del Rio Amador

McGill University, Department of Physics, Montreal, Canada (lovejoy@physics.mcgill.ca)

ORAL PROGRAMME AM6/NWP5 CONTINUES ON FRIDAY, 14:00

ASI11 Urban Climate

Lecture room: Vulcania 2

Convener: Martin Wattenbach

Co-Convener: Francesco Musco

Chairperson: Martin Wattenbach

11:30–11:45: EMS2016-5

WRF Model Evaluation for the Urban Heat Island Assessment

Shweta Bhati, Manju Mohan

Centre for Atmospheric Sciences, Indian Institute of Technology Delhi, Hauz Khas, New Delhi, India (shweta.bhati@yahoo.com)

11:45–12:00: EMS2016-25 (EMS Tromp YSTA)

Urban Heat Island's intensity research of Arctic city during winter (Apaitiy case-study) and its influence on inhabitants' thermal comfort

Pavel Konstantinov, Mikhail Varentsov, Mikhail Grishchenko, Irina Zheleznova, Alexander Baklanov Lomonosov Moscow State University, Faculty of Geography, Department of Meteorology and climatology, Moscow, Russian Federation (kostadini@mail.ru)

12:00–12:15: EMS2016-36 (EMS YSTA)

Sensitivity of the SURFEX land surface model to forcing settings in urban climate modelling

Gabriella Zsebeházi

Hungarian Meteorological Service, Regional Climate Modelling Group, Budapest, Hungary (zsebehazi.g@met.hu)

12:15–12:30: EMS2016-125

Evaluation of MUKLIMO_3 urban model simulations for summer days in Vienna in 2011–2015

Maja Zuvela-Aloise, Brigitta Hollosi

ZAMG, Division Data, Methods, Modeling, Vienna, Austria (maja.zuvela-aloise@zamg.ac.at)

12:30–12:45: EMS2016-246

Impact of Urban Land-Use Change in Eastern China on the East Asian Subtropical Monsoon: A Numerical Study

Rong Yu, Zhihong Jiang, Panmao Zhai

Nan Jing University of Information Science & Technology (yurong0519@163.com)

12:45–13:00: EMS2016-274

Evaluation of the simulated spatio-temporal variability of the anthropogenic heat flux in the agglomeration of Toulouse, France

Robert Schoetter, Alexandre Amossé, Erwan Bocher, Marion Bonhomme, Alexis Bourgeois, Serge Faraut, Julia Hidalgo, Aude Lemonsu, Jean-Pierre Lévy, Valéry Masson, Gwendall Petit, Nathalie Tornay

CNRM-GAME, Toulouse, France

(robert.schoetter@meteo.fr)

ORAL PROGRAMME ASI11 CONTINUES ON FRIDAY, 14:00

OBS2 High-resolution precipitation monitoring for impact assessment and climate-related applications

Lecture room: Oceania C

Convener: Tanja Winterrath

Co-Conveners: Andreas Becker; Auguste Gires; Katharina Lengfeld; Vincenzo Levizzani; Aart Overeem; Marie-claire ten Veldhuis; Markus Ziese

Chairperson: Chairperson: Tanja Winterrath

11:30–11:45: EMS2016-31

The Uncertainties Assessments of the Satellite Derived Rainfall Products

Margaret Kimani

University of Twente, Water Resource and Environmental Managements, Enschede, Netherlands (m.w.kimani@utwente.nl)

11:45–12:00: EMS2016-260

The diurnal cycle of tropical precipitation given by satellite, model and rain gauge data

Uwe Pfeifroth, Jörg Trentmann, Andreas H. Fink, Bodo Ahrens

Deutscher Wetterdienst, Climate Monitoring, Offenbach, Germany (uwe.pfeifroth@dwd.de)

12:00–12:15: EMS2016-601

3D Reconstruction of Individual Raindrops from Precise Ground-Based Precipitation Measurements

Martin Schwinzerl, Michael Schönhuber, Günter Lammer, Merhala Thurai

JOANNEUM RESEARCH Forschungsges mbH, DIGITAL, Graz, Austria (martin.schwinzerl@joanneum.at)

12:15–12:30: EMS2016-583

Real-time data acquisition of commercial microwave links: Implementation, Potential and Challenges

Christian Chwala, Felix Keis, Harald Kunstmann

Institute for Meteorology and Climate Research (IMK-IFU), Karlsruhe Institute of Technology, Garmisch-Partenkirchen, Germany (christian.chwala@kit.edu)

12:30–12:45: EMS2016-594

Rainfall monitoring using a regional X-band radar network

Samantha Melani, Andrea Antonini, Alessandro Mazza, Stefano Romanelli, Manuela Corongiu, Alberto Ortolani, Bernardo Gozzini

LaMMA Consortium, Sesto Fiorentino (FI), Italy
(melani@lamma.rete.toscana.it), Institute of Biometeorology - National Research Council, Florence, Italy (s.melani@ibimet.cnr.it)

12:45–13:00: EMS2016-449

Analysis of extreme rainfall events in Piedmont (NW Italy) using the CondMerg software on weather radars and a dense network of rain gauges

Diego Guenzi, Simona Fratianni, Rodolfo Boraso, Roberto Cremonini
Università degli Studi di Torino - Scienze della Terra, Turin, Italy (diego.guenzi@unito.it)

**ORAL PROGRAMME OBS2 CONTINUES ON FRIDAY,
14:00**

NWP7 Mesoscale Verification Inter-Comparison over Complex Terrain (MesoVICT)

Lecture room: Vulcania 1

Convener: Manfred Dorninger

Co-Conveners: Eric Gilleland; Chiara Marsigli

Chairperson: Eric Gilleland

11:30–11:45: EMS2016-267

Understanding the properties of the Fraction Skill Score

Gregor Skok, Nigel Roberts

University of Ljubljana, Faculty of Mathematics and Physics, Ljubljana, Slovenia (gregor.skok@fmf.uni-lj.si)

11:45–12:00: EMS2016-328

Verification of ensemble forecasts including observation uncertainty

Simon Kloiber, Manfred Dorninger

University of Vienna, Department of Meteorology and Geophysics, Wien, Austria
(manfred.dorninger@univie.ac.at)

12:00–12:15: EMS2016-357

Comparison of Clustered Fields

Caren Marzban, Xiaochuan Du, Scott Sandgathe

University of Washington, Applied Physics Lab, Seattle, WA, United States (marzban@stat.washington.edu), Univ. of Washington, Department of Statistics, Seattle, WA 98195 USA

12:15–12:30: EMS2016-557

Spatial verification of high-resolution precipitation forecasts through wavelets

Florian Kapp, Petra Friederichs, Michael Weniger

Bonn, Meteorological Institute, Germany (s6flkapp@uni-bonn.de)

12:30–12:45: EMS2016-358

Evaluation of Mei-yu Heavy-rainfall Forecasts for Taiwan by the CReSS Model: Performance and Impact of Model Resolution

Chung-Chieh Wang, Pi-Yu Chuang

National Taiwan Normal University, Earth Sciences, Taipei, Taiwan (cwang@ntnu.edu.tw)

END OF ORAL PROGRAMME NWP7

Friday, 14:00–16:00

UC1 Climate change detection, assessment of trends, variability and extremes

Lecture room: Saturnia

Convenor: Albert M.G. Klein Tank

Co-Convenors: Monika Lakatos; Martine Rebetez

14:00–14:15: EMS2016-157

Long-term Changes in Precipitation Phase in Europe

Martin Hynčica, Radan Huth

Department of Physical Geography and Geoecology,
Charles University in Prague, the Czech Republic
(martin.hyncica@natur.cuni.cz)

14:15–14:30: EMS2016-408

Observed temperature dependence of snowfall and snow pack up to 2500 m asl in the Swiss Alps

Martine Rebetez, Gaelle Serquet, Geoffrey Klein,
Christoph Marty, Christian Rixen, Yann Vitasse
Swiss federal research institute WSL, Neuchatel,
Switzerland (martine.rebetez@wsl.ch), Institute of
Geography, University of Neuchatel, Switzerland

Circulation, windstorms, etc

14:30–14:45: EMS2016-730

December 2015: Unprecedented climatic conditions in the Eastern Alps

Renato R. Colucci, Filippo Giorgi, Csaba Torma
Earth System Sciences and Environmental Technology,
ISMAR-CNR I-34123 Trieste, Italy

14:45–15:00: EMS2016-14

Siberian High Anomalies and Their Precursors

Yuliya Martynova, Vladimir Krupchatnikov, Elena
Kharyutkina
Siberian Regional Hydrometeorological Research
Institute, Novosibirsk, Russian Federation
(foxyj13@gmail.com), Institute of Monitoring of Climatic
and Ecological Systems SB RAS, Tomsk, Russian
Federation

15:00–15:15: EMS2016-116

Changes in the atmospheric dynamics leading to European heatwaves during the last century

M. Carmen Alvarez-Castro, Davide Faranda, Pascal
Yiou
Laboratoire des sciences du climat et de l'environnement (LSCE). Université Paris-Saclay,
LSCE, Gif-sur-Yvette, France (carmen.alvarez-
castro@lsce.ipsl.fr)

15:15–15:30: EMS2016-10

Local storminess trends and large-scale climate characterization from one of the world's longest observational wave dataset.

Angela Pomaro, Luigi Cavalieri, Piero Lionello
CNR-ISMAR Institute of Marine Sciences, Italy
(angela.pomaro@ve.ismar.cnr.it)

15:30–15:45: EMS2016-425

Analysis of changes in drought occurrence over the Mediterranean Basin using multiple time scales SPI index

Ramona Magno, Massimiliano Pasqui, Edmondo Di
Giuseppe

Institute of Biometeorology (IBIMET-CNR), Florence,
Italy (r.magno@ibimet.cnr.it), LaMMA Consortium of
Tuscany Region

15:45–16:00: EMS2016-83

An evaluation of modelling 20th century climate variability in CMIP5 models

Teija Seitola, Heikki Järvinen, Johan Silén, Jouni
Räisänen

Department of Physics, University of Helsinki, Finland,
Finnish Meteorological Institute, Helsinki, Finland

END OF ORAL PROGRAMME UC1

AM5/UC3 Climate Forecast Verification

Lecture room: Vulcania 1

Convenor: Pertti Nurmi

Co-Convenors: Anna Ghelli; Barbara Casati

Chairperson: Anna Ghelli

14:00–14:15: EMS2016-64

Assessing the impact of random corrections of the atmospheric component in seasonal predictions with CNRM-CM

Lauriane Batté, Michel Déqué
CNRM, UMR 3589 Météo-France/CNRS, Toulouse,
France (lauriane.batte@meteo.fr)

14:15–14:30: EMS2016-79

Quantifying improvements of multi model summer predictions over mid-latitudes with enhanced soil moisture initial conditions

Constantin Ardilouze, Prodhomme Chloé, Batté
Lauriane, Déqué Michel
Meteo France, CNRM, Toulouse, France
(constantin.ardilouze@meteo.fr)

14:30–14:45: EMS2016-73

Evaluating NARCCAP model performance in capturing frequencies of severe storm environments

Eric Gilleland, Melissa Bukovsky, Christopher
Williams, Caspar M Ammann, Barbara G Brown, Seth
McGinnis, Linda O Mearns
National Center for Atmospheric Research, Research
Applications Laboratory, Boulder, United States
(EricG@ucar.edu)

14:45–15:00: EMS2016-175

A comparison between observed and modeled precipitation at different spatial scales on the Norwegian mainland

Cristian Lussana, Barbara Casati, Hilde Haakenstad, Thomas N. Nipen, Ivar A. Seierstad
Norwegian Meteorological Institute, Oslo, Norway
(cristianl@met.no)

15:00–15:15: EMS2016-624

Discrimination assessment of empirical, dynamical and combined probabilistic rainy season onset forecasts for São Paulo, Brazil

Caio Coelho
National Institute for Space Research (INPE), Centre for Weather Forecast and Climate Studies (CPTEC), Brazil
(caio.coelho@cppec.inpe.br)

15:15–15:30: EMS2016-402

Evaluation of decadal predictions using satellite simulators and Fundamental Climate Data Records (FCDRs)

Thomas Spangehl, Marc Schröder, Kathrin Graw, Alejandro Bodas-Salcedo, Rita Glowienka-Hense, Sophie Stolzenberger, Andreas Hense, Rainer Hollmann
Deutscher Wetterdienst, Offenbach, Germany
(thomas.spangehl@dwd.de)

15:30–15:45: EMS2016-445

Multiple levels of validation for downscaled ensemble results

Rasmus Benestad, Kajsa Parding, Abdelkader Mezghani
Norwegian Meteorological Institute, Research and Developement, Oslo, Norway
(rasmus.benestad@met.no)

15:45–16:00: EMS2016-482

Assessment of the forecast quality of different seasonal climate prediction systems for the wind energy sector

Doo Young Lee, Albert Soret, Veronica Torralba, Nicola Cortesi, Pierre-Antoine Bretonnière, Francisco J. Doblas-Reyes
Barcelona Supercomputing Center, Earth Sciences Department, Spain (doo.young@bsc.es)

END OF ORAL PROGRAMME AM5/UC3**AM6/NWP5 Subseasonal-to-seasonal (s2s) predictions and societal applications**

Lecture room: Oceania AB

Convener: Ángel G. Muñoz

Co-Conveners: Laura Ferranti; Joanne Robbins; Andrew W. Robertson; Adrian Tompkins; Frederic Vitart

Chairperson: Angel G Munoz

Applications**14:00–14:15: EMS2016-266**

Experimenting with climate services to support short term adaptation

Andrea Vajda, Hilppa Gregow, Pentti Pirinen
Finnish Meteorological Institute, Climate Service Centre, Helsinki, Finland (andrea.vajda@fmi.fi)

14:15–14:30: EMS2016-520

A multi-model application on the sub-seasonal forecasting scale

Alfonso Ferrone, Daniele Mastrangelo, Piero Malguzzi
Department of Physics and Astronomy, University of Bologna, Bologna, Italy (alfonso.ferrone@gmail.com)

14:30–14:45: EMS2016-349

Heat waves in South Asia: diagnosis, prediction and communication for the health community

Hannah Nissan
International Research Institute for Climate & Society, Columbia University, United States
(hannah@iri.columbia.edu)

14:45–15:00: EMS2016-763

Seasonal forecast of droughts: providing useful information to water management and agribusiness sector

Stefano Materia, Silvio Gualdi
Centro Euro-Mediterraneo sui Cambiamenti Climatici, Bologna, Italy

15:00–15:15: EMS2016-192

Analysis of monthly precipitations from a regional ensemble prediction system applied to irrigation management

Raffaele Salerno, Enrico Maggioni
Centro Epson Meteo, Sesto S. Giovanni (MI), Italy (raffaele.salerno@meteo.expert)

15:15–15:30: EMS2016-96

Using seasonal climate forecasts in dynamic crop model to predict rice yield

Prakash Jha, Panos Athanasiadis, Silvio Gualdi, Vakhtang Shelia, Gerrit Hoogenboom
University of Venice CA'Foscari, Venice, Italy

15:30–15:45: EMS2016-340

Malaria forecasting in Uganda using S2S and seasonal forecasts

Adrian Mark Tompkins, Felipe Colon-Gonzalez, Francesca Di Giuseppe, Didas Namanya
ICTP, Earth System Physics, Trieste, Italy
(tompkins@ictp.it)

15:45–16:00: EMS2016-364

Potential of long-range forecasts in the energy market

Otto Hyvärinen, Antti Mäkelä, Matti Kämäräinen, Hilppa Gregow
Finnish Meteorological Institute, Helsinki, Finland
(otto.hyvarinen@fmi.fi)

END OF ORAL PROGRAMME AM6/NWP5**ASI11 Urban Climate**

Lecture room: Vulcania 2

Convener: Martin Wattenbach
Co-Convener: Francesco Musco

Chairperson: Martin Wattenbach

14:00–14:15: EMS2016-281

High density street-level air temperature observations network (HiSAN) in tropical urban area

Tzu-Ping Lin, Tsuyoshi Honjo, Chun-Kuei Yao, Yu-Cheng Chen, Feng-Yi Lin
National Cheng Kung University, Department of Architecture, Tainan, Taiwan (lin678@gmail.com)

14:15–14:30: EMS2016-287

The role of the atmospheric boundary layer in cool city mornings

Natalie Theeuwes, Gert-Jan Steeneveld, Reinder Ronda, Mathias Rotach, **Bert Holtslag**
Wageningen University, Meteorology and Air Quality, Wageningen, Netherlands (Bert.Holtslag@wur.nl)

14:30–14:45: EMS2016-459

Detection of Urban Heat Island in the regional reanalysis COSMO-REA6

Deborah Niermann, Christian Ohlwein, Sabrina Wahl
Meteorological Institute, University of Bonn, Auf dem Hügel 20, 53121 Bonn

14:45–15:00: EMS2016-566

Temporal and spatial patterns of sensible heat flux measured by scintillometers in central London

Ben Crawford, Sue Grimmond, Helen Ward, William Morrison, Simone Kotthaus
Department of Meteorology, University of Reading, United Kingdom (b.crawford@reading.ac.uk)

15:00–15:15: EMS2016-616

Comparison of atmospheric and surface urban heat islands in terms of their diurnal variability - a summertime case study for Krakow, Poland

Monika J. Hajto, Jakub P. Walawender, Mariusz Szymański, Anita Bokwa
Institute of Geography and Spatial Management, Jagiellonian University, Krakow, Poland, Satellite Remote Sensing Department, Institute of Meteorology and Water Management - National Research Institute, Krakow, Poland

END OF ORAL PROGRAMME ASI11

OBS2 High-resolution precipitation monitoring for impact assessment and climate-related applications

Lecture room: Oceania C

Convener: Tanja Winterrath

Co-Conveners: Andreas Becker; Auguste Gires; Katharina Lengfeld; Vincenzo Levizzani; Aart Overeem; Marie-claire ten Veldhuis; Markus Ziese

Chairperson: Chairperson: Else van den Besselaar

14:00–14:15: EMS2016-374

Global analysis of extreme precipitation trends and examination of the extreme value distribution based on daily data over land for the time period between 1988 and 2013

Kristin Raykova, Elke Rustemeier, Markus Ziese, Andreas Becker, Bodo Ahrens
Deutscher Wetterdienst, Meteorological Analysis and Modelling, Offenbach, Germany
(kristin.raykova@dwd.de)

14:15–14:30: EMS2016-677

Extreme value analysis based on a 10-year radar-based precipitation reanalysis

Edouard Goudenhoofdt, Laurent Delobbe
Royal Meteorological Institute, Belgium
(edouard.goudenhoofdt@meteo.be)

14:30–14:45: EMS2016-218

A scheme to conserve climatologically consistency of precipitation over different temporal scales for radar-derived precipitation rates

Rico Kronenberg, Christian Bernhofer
Technische Universität Dresden, Hydrologie und Meteorologie, Umweltwissenschaften, Tharandt, Germany (rico.kronenberg@tu-dresden.de)

14:45–15:00: EMS2016-375

Towards a radar-based high-resolution precipitation climatology for Germany - methodology and potential areas of application

Tanja Winterrath, Christoph Brendel, Mario Hafer, Thomas Junghänel, Anna Schmitt, Ewelina Walawender, Elmar Weigl, Andreas Becker
Deutscher Wetterdienst, Department of Hydrometeorology, Offenbach a. M., Germany
(tanja.winterrath@dwd.de)

15:00–15:15: EMS2016-716

Spatio-temporal variability of erosivity estimated from highly resolved and adjusted radar rain data (RADOLAN)

Franziska Fischer, Julia Hauck, Robert Brandhuber, Elmar Weigl, Harald Maier, Karl Auerswald
Grassland Group, Technical University of Munich, Freising, Germany (Franziska.Fischer@tum.de),
Bavarian State Research Center for Agriculture, Freising, Germany, German Weather Service, Freising/Weihenstephan, Germany

15:15–15:30: EMS2016-265

Comparison of different radar-based hail detection algorithms in Slovenia

Gregor Stržinar, Gregor Skok
University of Ljubljana, Faculty of Mathematics and Physics, Ljubljana, Slovenia (gregor.skok@fmf.uni-lj.si)

15:30–15:45: EMS2016-269

Analysis of heavy rains with respect to precipitation intensity course

Marek Kašpar, Miloslav Müller, Vojtěch Blížňák
Institute of Atmospheric Physics CAS, Department of Meteorology, Prague, Czech Republic
(kaspar@ufa.cas.cz)

15:45–16:00: EMS2016-744

A novel approach to characterising flow regimes in urban watersheds based on inter-amount times distribution

Marie-claire ten Veldhuis, Marc Schleiss
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END OF ORAL PROGRAMME OBS2

Posters Friday, 10:30–11:30

UC1 Climate change detection, assessment of trends, variability and extremes

Convener: Albert M.G. Klein Tank
Co-Conveners: Monika Lakatos, Martine Rebetez
Poster area: Hall
1-minute espresso-talks: 10:00, Saturnia

H16: EMS2016-87

Trends and variability of precipitation extremes in Sardinia island, 1951-2000: results dependence on the network density.

Paolo Boi
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H17: EMS2016-89

Comparison of heavy precipitation events in two mid-elevation mountain systems in Central Europe: the Vosges Mountains (France) and the Ore Mountains (Czech Republic-Germany border)

Jana Minářová, Miloslav Müller, Alain Clappier
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H18: EMS2016-113

Tokyo's 100-year Rainfall Changes
Yukimasa Tsubota, Saki Machida
J. F. Oberlin University, Natural Science Divisions, Atmospheric Science, Yokohama-shi, Japan
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H19: EMS2016-279

The occurrence of convective systems with a bow echo in warm season in Poland
Daniel Celiński-Mysław
Department of Climatology, Jagiellonian University, Krakow, Poland (daniel.celinski-myslaw@doctoral.uj.edu.pl)

H20: EMS2016-308

Analysis of twenty-first century monthly temperature in Basque Country
Santiago Gaztelumendi, Roberto Hernandez, Joseba Egaña
Meteorology Area, TECNALIA R&I., Basque Meteorology Agency (EUSKALMET)

H21: EMS2016-181

Variability and trends of extreme temperatures in Finland
Kirsti Jylhä, Seppo Saku, Ari Venäläinen
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H22: EMS2016-416

Long-term changes in the frequency and intensity of thunderstorms in Latvia: analysis based on observations from 14 surface weather stations

Zanita Avotniece, Maris Klavins, Agrita Briede, Svetlana Aniskevica
Latvian Environment, Geology and Meteorology Centre, Forecasting and Climate Department, Riga, Latvia

H23: EMS2016-360

Testing goodness-of-fit of the GEV distribution for sub-daily precipitation extremes in RCM-simulated and observed data

Romana Beranova, Martin Hanel, Jan Kysely
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H24: EMS2016-500

How does the climate change modify everyday life of Poles?

Małgorzata Szwed
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H25: EMS2016-532

Climate impact on large temperate river (River Salaca) ecosystem in Latvia

Gunta Springe, Janis Birzaks, Agrita Briede, Ivars Druvietis, Dāvis Ozoliņš, Valerijs Rodinovs, Agnija Skuja
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H26: EMS2016-554

Warm and cold spells in Alaska and their synoptic background

Agnieszka Sulikowska
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H27: EMS2016-598

A new global climatology of cut-off lows based on re-analysis: trends, drivers and implications

Steve Dorling, Oliver Bliss, Manoj Joshi
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H28: EMS2016-618

European summer heat of 2015 in a long-term perspective and atmospheric circulation peculiarities

Andreas Hoy, Stephanie Hänsel
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H29: EMS2016-632

The trends and variability of climate extremes in Latvia

Agrita Briede, Zanita Avotniece, Lita Korelska
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H30: EMS2016-672

Climate types in Slovenia, based on climate normals, trends and variability

Katja Kozjek, Mojca Dolinar, Gregor Vertačnik
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H31: EMS2016-713

Heavy rainfall - estimation of IDF curves for Hungary

Monika Lakatos, Lilla Hoffmann, Zita Bihari, Tamás Szenthimrey
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H32: EMS2016-736

Changes in extreme events over Italian peninsula and its impacts on the electric system

Riccardo Bonanno, Paola Faggian
RSE Spa - Milano - Italy

H33: EMS2016-135

An Assessment of Summer Hydro-Climatic Variability and Extremes on the Canadian Prairies

Barrie Bonsal
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H34: EMS2016-579

Sensitivity of glacier melt and equilibrium line altitude on the Antarctic Peninsula to climatic change

Ulrike Falk, Damián López, Adrián Silva Busso, Hernán Sala, Benjamin Marzeion
Climate Lab, Dept Geography, University Bremen, Germany

H35: EMS2016-229

Assessing significance of trends using counts of signs of the trends as test statistic

Radan Huth, Martin Dubrovský
Charles University, Faculty of Science, Dept. of Physical Geography and Geoecology, Prague, Czechia (huth@ufa.cas.cz), Institute of Atmospheric Physics, Czech Academy of Sciences, Prague, Czechia

H36: EMS2016-592

Sensitivity analysis of expected wind extremes over the Iberian Peninsula

Elena García-Bustamante, Jorge Navarro-Montesinos, J. Fidel González-Rouco, Jorge Conte-García, Etor E. Lucio-Eceiza
CIEMAT, Dpt. of Energy, Madrid, Spain (elgarcia@ucm.es)

END OF POSTER PROGRAMME UC1**AM5/UC3 Climate Forecast Verification**

Convener: Pertti Nurmi

Co-Conveners: Anna Ghelli, Barbara Casati

Poster area: Hall

1-minute espressi-talks: 10:15, Vulcania 1

Chairperson: Anna Ghelli

H43: EMS2016-234

Study on Extended-range Precipitation Forecast Based on Low Frequency Oscillation in Midwest Region of Northwest China

Xuwei Jia, Xu Li, Ying Zhang, Kezheng Shang, Yue Man, Shigong Wang
Collage of Atmospheric sciences, Lanzhou University, Lanzhou, China (lixu07@lzu.edu.cn)

H44: EMS2016-272

How well do regional climate models reproduce mean seasonal precipitation over Europe?

Ivana Herceg-Bulić, Ivan Gütler, Čedo Branković
Faculty of Science, University of Zagreb, Geophysical Institute, Zagreb, Croatia (ihercegb@gfz.hr)

END OF POSTER PROGRAMME AM5/UC3**AM6/NWP5 Subseasonal-to-seasonal (s2s) predictions and societal applications**

Convener: Ángel G. Muñoz

Co-Conveners: Laura Ferranti, Joanne Robbins, Andrew W. Robertson, Adrian Tompkins, Frederic Vitart

Poster area: Hall

1-minute espressi-talks: 10:15, Oceania AB

Chairperson: Adrian Tompkins

H45: EMS2016-316

Canadian Sub Seasonal to Seasonal Forecasting System

Marko Markovic, Hai Lin, Normand Gagnon
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H46: EMS2016-471

Sub-seasonal Sources of Predictability of Temperature and Wind Speed: the Role of Weather Regimes.

Nicola Cortesi, Veronica Torralba, Albert Soret, Llorenç Lledo, Pierre-Antoine Bretonniere, Francisco J. Doblas-Reyes
Barcelona Supercomputing Center, Barcelona, Spain

H47: EMS2016-190

The north-south precipitation dipole over southeastern South America and the SACZ predictability

Iracema Cavalcanti

National Institute for Space Research, Center for Weather Forecasting and Climate Studies, São José dos Campos, Brazil (iracema@cptec.inpe.br)

H49: EMS2016-210

Skill of Real-Time APCC's Seasonal Multi-Model Ensemble Predictions during the Period 2008-2014
Young-Mi Min, Vladimir N. Kryjov
APEC Climate Center, Busan, Korea, Republic Of
(kryjov@apcc21.org)

H50: EMS2016-355

Forecast Skills in prediction of the precipitation in Global Seasonal Forecasting System version 5 during the East Asian Summer Monsoon
Sang-Min Lee, Hyun-Suk Kang, Young-Hwa Byun
National Institute of Meteorological Sciences, Korea Meteorological Administration, Jeju, Korea, Republic Of (lsmin9@gmail.com)

END OF POSTER PROGRAMME AM6/NWP5**ASI10 Interfacing hydrological and meteorological models in forecasting system**

Convener: Massimiliano Zappa
Co-Conveners: Herbert Formayer, Louise Crochemore
Poster area: Gallery
1-minute espressi-talks: 10:00, Vulcania 2

Chairperson: Massimiliano Zappa

G13: EMS2016-754

Hydrologic ensemble prediction: enhancing science, operation and application through HEPEX
Fredrik Wetterhall, Maria-Helena Ramos, Qj Wang, Andy Wood
European Centre for Medium Range Weather Forecasts, Reading, United Kingdom (fredrik.wetterhall@ecmwf.int)

END OF POSTER PROGRAMME ASI10**ASI11 Urban Climate**

Convener: Martin Wattenbach
Co-Convener: Francesco Musco
Poster area: Gallery
1-minute espressi-talks: 10:15, Vulcania 2

Chairperson: Martin Wattenbach

G14: EMS2016-26 (EMS Tromp YSTA)

Investigation of detailed spatial structure of the Moscow megacity climate features according to the newest meteorological observations and regional climate modelling with connection to human comfort

Mikhail Varentsov, Pavel Konstantinov
Lomonosov Moscow State University, Faculty of Geography, Department of Meteorology and Climatology, Moscow, Russian Federation (mvar91@gmail.com), A.M. Obukhov Institute of Atmospheric Physics

G15: EMS2016-47

Urban heat island and outdoor thermal comfort indices in extreme continental climate zone (Astana case-study)

Pavel Konstantinov, Alina Akhmetova, Diana Tattimambetova
Lomonosov Moscow State University, Faculty of Geography, Meteorology and climatology, Moscow, Russian Federation (kostadini@mail.ru)

G16: EMS2016-606

Validation and analysis of WRF-simulated summer urban heat island effect for Budapest

Júlia Göndöcs, Hajnalka Breuer, Rita Pongrácz, Judit Bartholy
Eötvös Loránd University, Budapest, Hungary (julia.gondocs@gmail.com)

G17: EMS2016-641

Variability of PM10 & PM2.5 concentrations in selected Polish agglomerations: the role of meteorological conditions, 2005-2015

Joanna Jędruszkiewicz, Bartosz Czernecki, Michał Marosz
Institute of Geography, Pedagogical University of Cracow, Kraków, Poland (jjedruszkiewicz@gmail.com)

G18: EMS2016-656

Urban climatological measurements in a renovated district of Budapest

Csenge Dian, Rita Pongrácz, Zsuzsanna Dezső, Judit Bartholy
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G19: EMS2016-724

Urban heat island phenomenon and related meteorological effects over central Europe: a multi-model assesment

Peter Huszar, Michal Belda, Jan Karlicky, Tomas Halenka, Michal Ronovsky
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END OF POSTER PROGRAMME ASI11

OBS2 High-resolution precipitation monitoring for impact assessment and climate-related applications

Convener: Tanja Winterrath

Co-Conveners: Andreas Becker, Auguste Gires, Katharina Lengfeld, Vincenzo Levizzani, Aart Overeem, Marie-claire ten Veldhuis, Markus Ziese

Poster area: Gallery

1-minute espressi-talks: 10:15, Oceania C

Chairperson: Tanja Winterrath

G50: EMS2016-411

Verification of ECMWF precipitation forecasts using high-density surface observations

Sinead Duffy, Thomas Haiden, Martin Janousek
ECMWF, Forecast Department, Reading, United Kingdom

G51: EMS2016-502

Assessment of extreme global precipitation over land in ERA-20C by comparison to GPCC's Full Data Daily data set

Elke Rustemeier, **Kristin Raykova**, Markus Ziese, Andreas Becker, Peter Finger, Anja Meyer-Cristoffer, Udo Schneider
Deutscher Wetterdienst, Meteorological Analysis and Modelling, Offenbach, Germany

G52: EMS2016-746

Estimation of catchment wetness for the Wupper River Basin, Germany

Marc Scheibel, Paula Lorza
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G53: EMS2016-19

Using X-Band radar reflectivity data for hail detection and lightning nowcasting in Naples urban area

Vincenzo Capozzi, Errico Picciotti, Vincenzo Mazzarella, Giorgio Budillon, Frank Silvio Marzano
Department of Science and Technology, University of Naples "Parthenope", Naples, Italy

G54: EMS2016-264

Hail detection with a C-band dual-polarization weather radars in Finland.

Ljubov Liman, Dmitri Moisseev
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G55: EMS2016-262

Radar-based precipitation climatology of the Czech Republic in the warm part of the year

Vojtěch Blížnák, Marek Kačpar, Miloslav Müller
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G56: EMS2016-745

On the potential role of radar technology in the Global Climate Observing System

Andreas Becker
DWD, Hydrometeorology, Offenbach, Germany
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END OF POSTER PROGRAMME OBS2

NWP7 Mesoscale Verification Inter-Comparison over Complex Terrain (MesoVICT)

Convener: Manfred Dorninger

Co-Conveners: Eric Gilleland, Chiara Marsigli

Poster area: Hall

1-minute espressi-talks: 10:15, Vulcania 1

Chairperson: Eric Gilleland

H73: EMS2016-213

User oriented verification of wind speed and wind direction

Manfred Dorninger
University of Vienna, Department of Meteorology and Geophysics, Wien, Austria
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H74: EMS2016-255

Statistical downscaling of WRF mesoscale simulations using an artificial neural network to forecast winds at local, unresolved scale

Florian Dupuy, Thierry Hedde, Pierre Roubin, Pierre Durand
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H75: EMS2016-268

A new wind verification method based on the Fraction Skill Score

Gregor Skok, Veronika Hladnik
University of Ljubljana, Faculty of Mathematics and Physics, Ljubljana, Slovenia (gregor.skok@fmf.uni-lj.si)

END OF POSTER PROGRAMME NWP7

The End

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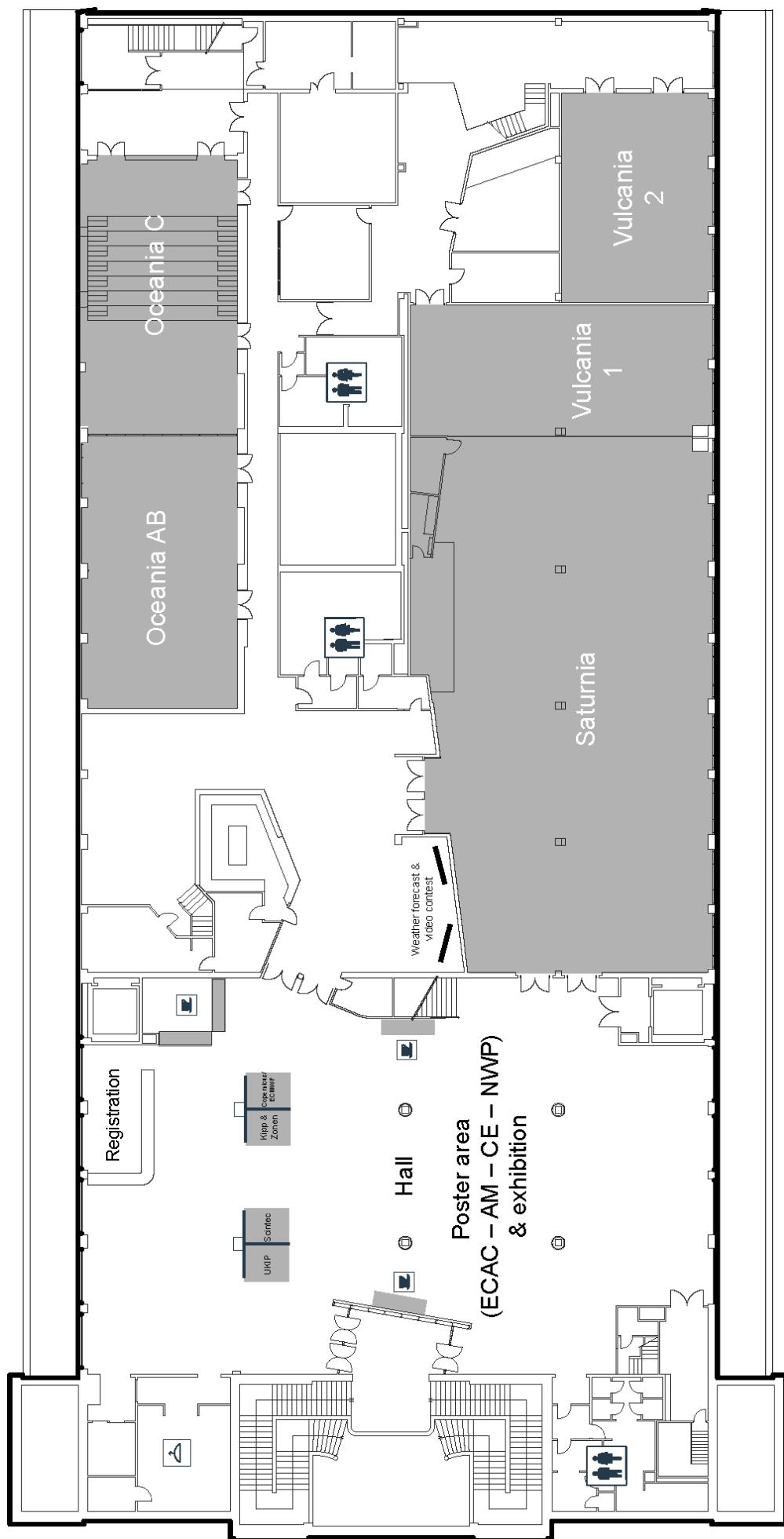
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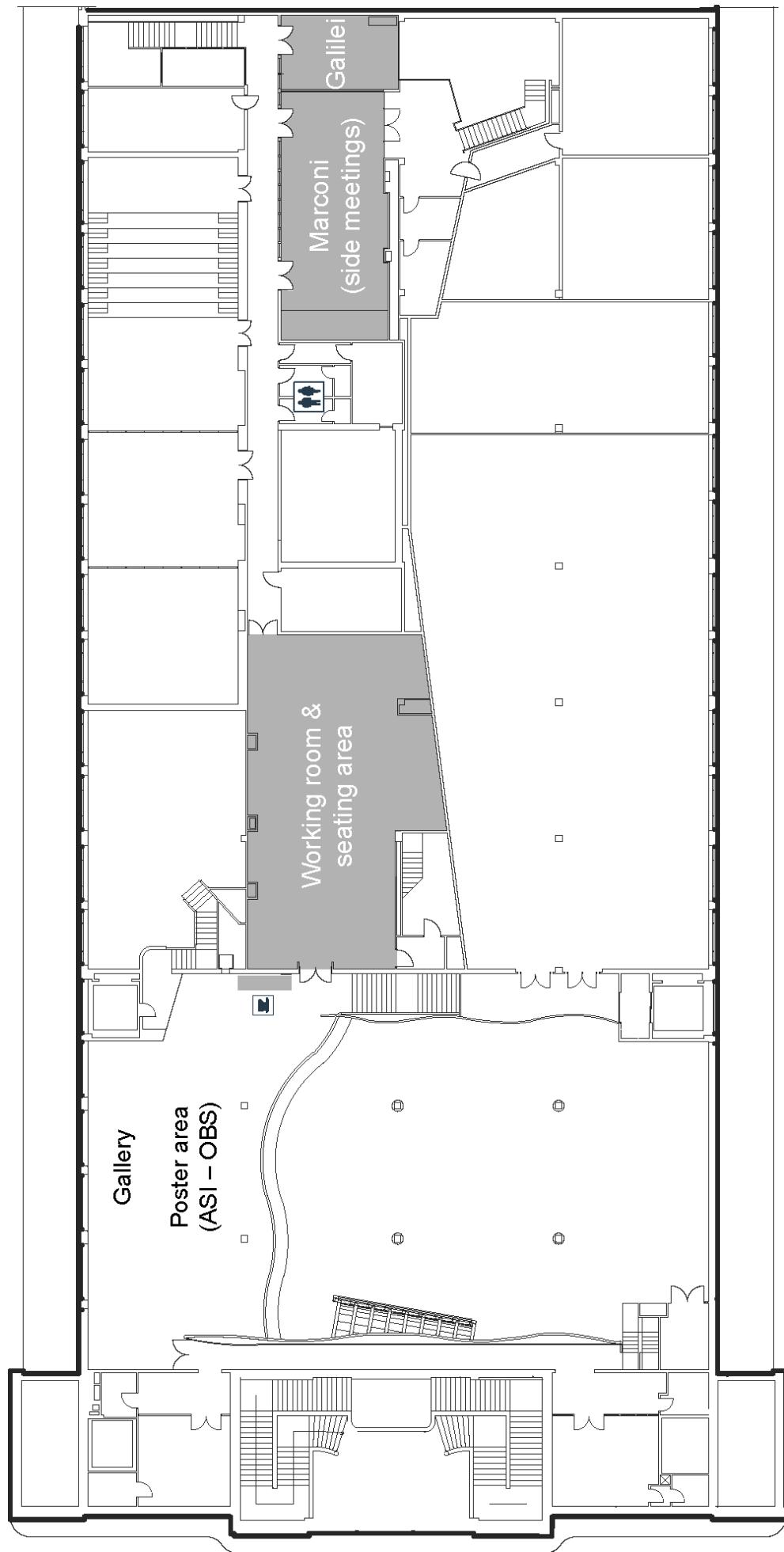
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Ensemble-Based Soil Initialization for Seasonal-to-Decadal Predictions

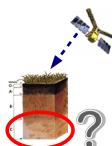
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Motivation

As the ocean, the long-term memory of the (deep) soil exhibits potential seasonal-to-decadal predictability.^[1]

→ Soil temperature & moisture should be initialized as realistic as possible.

Challenge: There are no observations for the deep soil...



Approach: Ensemble-based data assimilation

- Use offline soil model (TERRA-ML from COSMO-CLM)
- Assimilate atmospheric forcing data and satellite observations
- TERRA-ML transports observational information downwards
- Achieve optimized soil initial state for predictions

Observation Simulation System Experiments

TERRA-ML

- Multilayer land surface scheme, default in COSMO-CLM
- Prognoses soil temperature & moisture
- Offline model, driven by atmospheric forcing

Data assimilation experiment

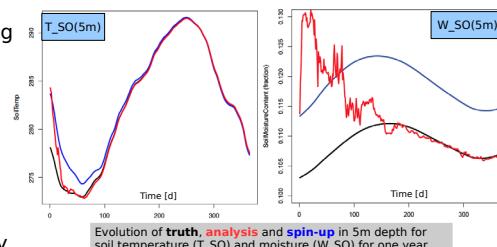
- One vertical soil column (Lindenberg)
- Use Ensemble Kalman Filter
- Generate truth run, but initialize filter with strong bias (initial uncertainty)

Observations

Soil temperature & moisture in first layer only

Results

Compare **filter analysis** with **spin-up** (forcing only) and **truth** over one year:



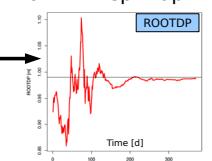
Evolution of **truth**, **analysis** and **spin-up** in 5m depth for soil temperature (T_{SO}) and moisture (W_{SO}) for one year.

State estimation

One observation per day already valuable:
→ Soil temperature & moisture are estimated more reliably and quicker than with spin-up

Parameter estimation

True root depth can be retrieved
→ Estimation of uncertain parameters works in principle



→ Deep soil estimation by ensemble data assimilation is feasible.

Regional Data Assimilation with Real Observations

Technical setup

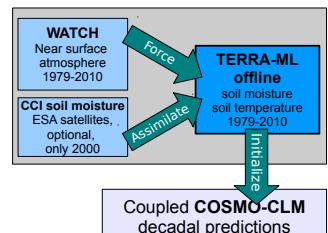
- Domain: Africa, decade 2001-2010, within the *Miklip-DEPARTURE* project
- TERRA-ML coupled with Parallel Data Assimilation Framework (PDAF^[2])
- Use Local Ensemble Transform Kalman filter (LETKF^[3])

Methodology

- Create land surface re-analysis 1979-2010 using WATCH forcing data^[4]
- Additionally assimilate satellite soil moisture in 2000

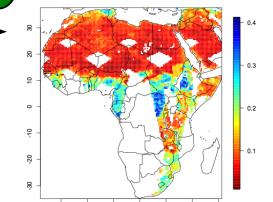
Data assimilation system

Generates soil initial conditions



Satellite observations

- Daily ESA CCI surface soil moisture^[5] in year 2000
- Includes uncertainty information: used as observation error in DA system
- Soil temperature unobserved, but is updated through correlations with soil moisture (e.g., heat capacity and transfer coefficient depend on soil moisture)

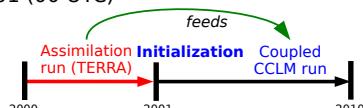


→ Regional, ensemble-based land surface data assimilation system fully working.

Impact on Decadal Predictions

Setup

- Decadal COSMO-CLM hindcast (2001-2010) for Africa, downscale global MPI-ESM
- Initialize with soil fields from DA system at 01.01.2001 (00 UTC)

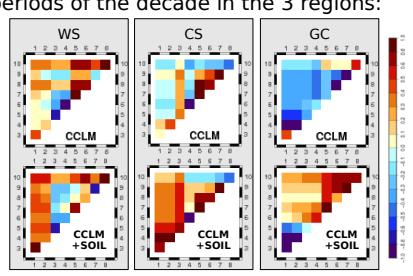


Evaluation

- West African Monsoon (WAM) precipitation in three regions: Guinea Coast (GC), Western & Central Sahel (WS, CS)
- Compare new soil initialization (**CCLM-SOIL**) with standard initialization (= soil taken from ERA-driven historical COSMO-CLM run)

Results

Correlations with observations for all sub-periods of the decade in the 3 regions:

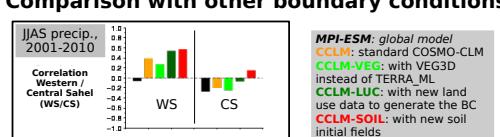


Correlations between observed & simulated JJAS precipitation for all sub-periods in 2001-2010. The upper panel shows the results for the standard CCLM hindcasts, while the lower panel uses new soil initial conditions. X-axis = start year ; Y-axis = end year

→ Soil initialization consistently improves the predictability of sub-periods in all regions:

- WS/CS: particularly for longer periods
- GC: particularly at end of decade

Comparison with other boundary conditions



- RCMs outperform the GCM and land surface BCs influence the decadal predictability
- Improved soil initialization increases skill in both regions

Conclusions and Outlook

Conclusions

- Soil initialization is relevant for medium-range climate
- Predictive skill can be enhanced by soil initialization with ensemble data assimilation due to long-term memory
- Limited by model & observations errors, but high potential due to improved satellite observations within past years

WEATHER
Initial Value
Problem

**SEASONAL/
DECADAL**
← Both →

CLIMATE
Boundary
Value Problem

Outlook

- Further evaluation
- Use new satellite products
- Application to other predictions/models
- Exploration of parameter estimation

References

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- [4] Weedon et al. (2014): The WFDEI meteorological forcing data set: WATCH Forcing Data methodology applied to ERA-Interim reanalysis data. *Water Res. Res.*, 50, 7505-7514.
- [5] Dorigo et al. (2014): Evaluation of the ESA CCI soil moisture product using ground-based observations. *Remote Sensing of Environment*, 162, 380-395.

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