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

Programme

Trieste | Italy | 12–16 September 2016

Where atmosphere, sea and land meet: bridging between sciences, applications and stakeholders
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### Monday, 12 September 2016

**Opening Session (in Saturnia)**

**14:00–16:00**

- **Saturnia:** OBS4: Manufacturers & OBS5: Atmos. Meas.
- **Vulcania 1:** ASI2: Meteor., climate, and space weather
- **Oceania AB:** ASI16: WRF Model: Developm. and Applic.
- **Oceania C:** ASI1: Dynamical Meteorology

**16:30–18:15**

- **Saturnia:** OBS1
- **Vulcania 1:** ASI12: Phenology & oceanography
- **Oceania AB:** AM4: Reducing weather risks to transport
- **Oceania C:** 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**

- **Saturnia:** UC2: Climate predictions & scenarios
- **Vulcania 1:** OBS1 (4)
- **Vulcania 2:** ASI8: Atmospheric Hazards
- **Oceania AB:** CE1: Media & Communication
- **Oceania C:** UC4: The Cryosphere and its interactions

**11:00–13:00**

- **Saturnia:** UC2: MC1: Climate Monit. (2)
- **Vulcania 1:** ASI9: BL Physics and parameterization
- **Oceania AB:** CE1
- **Oceania C:** UC4 (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**

- **Saturnia:** SE3/AM2: Severe weather impacts
- **Vulcania 1:** UC7: Synoptic climatology
- **Vulcania 2:** ASI3: Parameter. of small scale processes
- **Oceania AB:** SE6/CE9: Evaluation of climate services
- **Oceania C:** ASI6/UC8: Mid-latitude atm. teleconnections

### Wednesday, 14 September 2016

**09:00–10:30**

- **Saturnia:** ASI13: Energy Meteorology
- **Vulcania 1:** UC7: Synoptic climatology
- **Vulcania 2:** CE2/AM3: impact based forecasts, risk based warn.
- **Oceania AB:** CE2: Copernicus Climate Change Serv.
- **Oceania C:** ASI7/CE10: Human Biometeorology

**11:00–13:00**

- **Saturnia:** ASI13
- **Vulcania 1:** UC7 (5)
- **Vulcania 2:** UC6: Reanalyses (3)
- **Oceania AB:** AM1: High Impact Weather
- **Oceania C:** CE4: Adaptation Strategies

**14:00–14:55**

- **Poster Sessions - Author-in-attendance: UC6, UC7, SE2, AM1, ASI7/CE10, OBS3, NWP1**

**15:00–17:00**

- **Saturnia:** ASI13
- **Vulcania 1:** UC6
- **Vulcania 2:** NWP1: Dynamics & pred. high impact weather

**17:30–19:00**

- **ECAl Symposium: (in Saturnia)**
- **Climate Change - Adaptation and Mitigation: The Role of Climate Science and Services**

### Thursday, 15 September 2016

**09:00–10:30**

- **Saturnia:** ASI13
- **Vulcania 1:** MC2: Spatial Climatology
- **Vulcania 2:** SE4: From predictions to impact forecasts
- **Oceania AB:** NWP3: Data assimilation & use of observations
- **Oceania C:** CE6: Services supporting science education

**11:00–13:00**

- **Saturnia:** ASI13
- **Vulcania 1:** ASI5: Coupled atmos.-wave ocean processes
- **Vulcania 2:** NWP3 (2) & NWP2 (6): Numerical aspects & physical parametr. Int.
- **Oceania AB:** 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**

- **Saturnia:** ASI13
- **Vulcania 1:** ASI14: Atmospheric composition, pollution
- **Vulcania 2:** NWP4: Probabilistic & ensemble forecasting
- **Oceania AB:** NWP2 (6)
- **Oceania C:** ASI5 (2)

**17:30–19:00**

- **Saturnia:** ASI13
- **Vulcania 1:** ASI14
- **Vulcania 2:** NWP4

**19:30**

- **The EMS Festa**

### Friday, 16 September 2016

**09:00–10:10**

- **Saturnia:** UC1: CC detection, trends, variability
- **Vulcania 1:** 10:15 1-min expressi-talks; NWP7-AM5/UC3
- **Vulcania 2:** AM6/NWP5: S2s-prediction & applications
- **Oceania AB:** OBS2: High-resolution precipitation monitor.
- **Oceania C:** ASI10: Hydrometeorology

**10:30–11:30**

- **Poster Sessions - Author-in-attendance: UC1, AM5/UC3, AM6/NWP5, ASI10, ASI11, OBS2, NWP7**

**11:30–13:00**

- **Saturnia:** NWP7: MesosVICT
- **Vulcania 1:** AM6/NWP5
- **Vulcania 2:** OBS2

**14:00–16:00**

- **Saturnia:** AM5/UC3: Climate Forecast Verification
- **Vulcania 1:** AM6/NWP5
- **Vulcania 2:** OBS2

**16:15**

- **Small reception, announcement poster award winner 2016, closing: Foyer**
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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 expressi-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:

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

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<td>Monday, 12 September</td>
<td>18:00 Saturnia</td>
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<tr>
<td>OBS1: Atmospheric</td>
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<td>AM4: Reducing Weather</td>
<td>18:00 Vulcania 1</td>
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<tr>
<td>ASI1: Dynamical</td>
<td>During oral session</td>
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<td>ASI2: Phenology and</td>
<td>17:30 Oceania C</td>
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<td>ASI16: WRF:</td>
<td>During oral session</td>
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<td>ASI17: CE8: Creating</td>
<td>16:30 Oceania C</td>
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<td>ASI1: Media &amp;</td>
<td>During oral session</td>
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<td>Tuesday, 13 September</td>
<td>12:45 Saturnia</td>
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<tr>
<td>MC1: Climate</td>
<td>During oral session</td>
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<td>UC2: Climate</td>
<td>12:45 Vulcania 1</td>
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<td>UC4: The Cryosphere</td>
<td>10:15 Vulcania 2</td>
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<td>SE3/AM2: Severe</td>
<td>14:00 Saturnia</td>
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<td>ASI3: Parameterization</td>
<td>14:00 Oceania AB</td>
<td>14:00–14:55</td>
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<td>ASI6/UC8: Mid-latitude</td>
<td>14:00 Vulcania 2</td>
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<td>ASI8: Atmospheric</td>
<td>09:00 Oceania AB</td>
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<td>ASI9: BL physics</td>
<td>14:00 Oceania AB</td>
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<tr>
<td>CE1: Media &amp;</td>
<td>During oral session</td>
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<tr>
<td>Wednesday, 14 September</td>
<td>No espressi-talks scheduled</td>
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<tr>
<td>UC6: Global &amp; regional</td>
<td>10:15 Vulcania 1</td>
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<td>UC7: Synoptic</td>
<td>During oral session</td>
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<td>SE2: Copernicus Climate</td>
<td>09:00 Oceania C</td>
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<td>AM1: High Impact</td>
<td>During oral session</td>
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<td>OBS3: Ground and</td>
<td>14:00 Vulcania 2</td>
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<td>OBS1: Dynamics &amp;</td>
<td>During oral session</td>
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<td>Thursday, 15 September</td>
<td>14:00 Oceania AB</td>
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<tr>
<td>MC2: Spatial</td>
<td>12:30 Vulcania 1</td>
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<td>MC3: Palaeoclimatology</td>
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<td>SE4: From predictions</td>
<td>09:00 Oceania AB</td>
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<td>ASI4: Coastal</td>
<td>During oral session</td>
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<td>ASI5: Coupled</td>
<td>16:45 Vulcania 2</td>
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<td>ASI13: Energy</td>
<td>12:15 Oceania AB</td>
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<tr>
<td>ASI14: Atmospheric</td>
<td>12:30 Saturnia</td>
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<tr>
<td>CE6: Services</td>
<td>14:00 Vulcania 1</td>
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<td>NWP2: Numerical</td>
<td>12:45 Oceania C</td>
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<td>NWP3: Data assimilation</td>
<td>09:00 Oceania C</td>
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<td>NWP4: Probabilistic</td>
<td>During oral session</td>
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<tr>
<td>Friday, 16 September</td>
<td>10:00 Saturnia</td>
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<tr>
<td>UC1: CC detection,</td>
<td>During oral session</td>
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<td>AM5/UC3: Climate</td>
<td>10:15 Vulcania 1</td>
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<td>AM5/NWP5: s2s</td>
<td>During oral session</td>
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<tr>
<td>ASI10: Hydrometeorology</td>
<td>10:00 Vulcania 2</td>
<td>10:30–11:30</td>
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<td>ASI11: Urban Climate</td>
<td>During oral session</td>
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<td>OBS2: High-resolution</td>
<td>10:15 Oceania C</td>
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<tr>
<td>NWP7: MesoVICT</td>
<td>During oral session</td>
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### Services supporting science education

- **General Information**: 12–16 September 2016
- **Trieste, Italy**
**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 McCallum (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).

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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.
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

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The conference writing pads for participants are kindly sponsored by Scintec.

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Come and collect your free copy of Meteorological Technology International magazine. MTI is the only international journal focused on meteorological technology in research, civil, defense and commercial applications. Meteorological Technology World Expo in Madrid, Spain, from 27-29 September is the largest exhibition of meteorological technology in the world. 170 exhibitors will exhibit the very latest in observation and prediction technologies. Come and see us to discuss your free magazine subscription, or participation at our next Expo.
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
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
Challenges and prospects in regional climate projections

Fred Carr  President of the American Meteorological Society
Analysis, Prediction and Observing Systems Experiments for an Urban Testbed in Dallas/Ft. Worth, Texas
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, Slovenian Environment Agency
- André Jöhl, 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, JPI Climate Governing Board, President of the CMCC
- Peter Höppe, Munich Re, Head Geo Risko Forschung/Corporate Climate Centre
- name tbd
- Selvaraju Ramasamy, CO2GeoNet

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


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.
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.
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 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.
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 Černač, 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 Černač 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.
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 Lorànd 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
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.

For additional information please see [www.harry-otten-prize.org](http://www.harry-otten-prize.org)
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).
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.

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**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 Nicalò 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
NEXT-GENERATION METEOROLOGICAL INSTRUMENTS ARE HERE!

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www.meteorologicaltechnologyworldexpo.com
INTRODUCTION TO THE WEATHER RESEARCH AND FORECASTING (WRF) MODEL
Training Workshop, 11 September 2016, Trieste

Gert-Jan Steeneveld  
Wageningen Univ.

Hugo Hartmann  
MeteoGroup

Peter Kalverla  
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.
Supporting policy-making, science and industry with reliable, timely and quality-controlled information

For more information, please visit: climate.copernicus.eu | atmosphere.copernicus.eu | copernicus.eu | ecmwf.int
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- **AM4** oral programme page 30 | poster programme page 33
- **AM5/UC3** oral programme page 97 | poster programme page 102
- **AM6/NWP5** oral programme page 92, 94, 98 | poster programme page 102

## The Atmospheric System and its Interactions (ASI)
- **ASI1** oral programme page 27, 31 | poster programme page 34
- **ASI2** oral programme page 28 | poster programme page 52
- **ASI3** oral programme page 47 | poster programme page 85
- **ASI4** oral programme page 76, 80 | poster programme page 85
- **ASI5** oral programme page 73, 76 | poster programme page 53
- **ASI6/UC8** oral programme page 42, 47 | poster programme page 67
- **ASI7/CE10** oral programme page 57, 60 | poster programme page 53
- **ASI8** oral programme page 40 | poster programme page 54
- **ASI9** oral programme page 43 | poster programme page 54
- **ASI10** oral programme page 93 | poster programme page 103
- **ASI11** oral programme page 95, 99 | poster programme page 103
- **ASI12** oral programme page 31 | poster programme page 34
- **ASI13** oral programme page 57, 61, 63, 71, 74, 77, 81 | poster programme page 86
- **ASI14** oral programme page 77, 81 | poster programme page 87
- **ASI16** oral programme page 28 | poster programme page 35

## Communication and Education (CE)
- **CE1** oral programme page 40, 43 | poster programme page 54
- **CE2/AM3** oral programme page 58 | poster programme page 33
- **CE4** oral programme page 61 | poster programme page 88
- **CE5** oral programme page 72, 74 | poster programme page 88
- **CE6** oral programme page 71 | poster programme page 88
- **CE7** oral programme page 64 | poster programme page 88

## Measurements and Observations (OBS)
- **OBS1** oral programme page 29, 32, 38 | poster programme page 35
- **OBS2** oral programme page 93, 95, 100 | poster programme page 104
- **OBS3** oral programme page 64 | poster programme page 88
- **OBS4** oral programme page 29 | poster programme page 88

## 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 88
- **NWP4** oral programme page 78, 82 | poster programme page 90
- **NWP7** oral programme page 96 | poster programme page 104
### Monday, 12 September 2016

**Opening Session**  
Room Saturnia  
Opening by the EMS President and Welcome Addresses  
see also page 10

<table>
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<tr>
<th>Time</th>
<th>Session/Room</th>
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| 09:00–10:30| Opening Session I Room Saturnia | Opening by the EMS President and Welcome Addresses  
see also page 10 |
| 10:30      | Coffee Break  | |
| 11:00–13:00| Strategic Lectures I Room Saturnia | see also page 10 |
| 12:00      | Lunch Break   | |
| 13:00      | Room Saturnia | |

#### Posters

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<tr>
<th>Room</th>
<th>Saturnia</th>
<th>Vulcania 1</th>
<th>Oceania AB</th>
<th>Oceania C</th>
<th>Vulcania 2</th>
<th>Room</th>
</tr>
</thead>
</table>
| 14:00–16:00 | SE1/CE8: Creating national and regional climate services in Europe through partnerships  
OBS4: Manufacturers' session until 14:45  
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 | |

#### Poster Session

**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.
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

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker(s)</th>
</tr>
</thead>
</table>
| 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-Maspoli, Erika Kienast, Christof Appenzeller  
Federal Office of Meteorology and Climatology, MeteoSwiss, Zurich, Switzerland |
| 14:45–15:00   | EMS2016-298 Assessement 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-Maspoli, 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 Assimakopoulou, 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:** Vulcania 2

**Convenor:** Thomas Frisius  
**Co-Conveners:** Frank Lunkeit; Alessandro Dell’Aquila; Christian Franzke

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker(s)</th>
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</thead>
</table>
| 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 e 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 (domnik.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 espressi 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-Conveners: 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 independence
Mark Kelly, Patrick J. H. Volker
Danish Tech.Univ., Risø Campus, DTU Wind Energy, Meteorology, Roskilde, Denmark (mkel@risoe.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 Hydrospheric Physics (CINFAI), Rome, Italy.

15:45–16:00: 1-minute espressi talks (poster introductions)

END OF ORAL PROGRAMME ASI16

**OBS1 Atmospheric measurements from the local to the regional scale: Concepts, new technologies and scientific progress**
Lecture room: Vulcana 1
Convener: Fred C. Bosveld
Co-Convener: Frank Beyrich
Chairperson: Frank Beyrich

Observatories and long-term measurements

14:00–14:15: 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-Villagrasa, Maria 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 Mastrantonio, 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 SD 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 Viol, Mathieu Papazzoni, Anne-Lise Beaulant, François Besson, Jean-Michel Soubeyroux, Fabienne Regimbeau
Météo-France, Climatology, France (christian.viol@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 CLEANROADS system
Claudia Di Napoli, Andrea Piazza, Ilaria Pretto, Guido Benedetti, Giacomo Merler, Elisa Malloci, Gabriele Tonindel, Roberto Cavaliere, Stefano Seppi, Roberto Apolloni, Cosimo Corrado, Thomas Tschurtschenthaler, Gianluca Antonacci, Ilaria Todeschini
Metotrentino 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@camsma.cn)

17:00–17:15: EMS2016-118  
Impact of Eurasian spring snow decrement on East Asian summer precipitation  
**Ruonan Zhang**  
China (zhangrm2010@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, University of Trento, Trento, Italy (dino.zardi@unitn.it), National Consortium of Universities for Atmospheric and Hydrospheric 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: Vulcana 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 espressi 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 Verwer  
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 Popovic, 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,** Madiaina 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 expressi-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 expressi-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 Gregorič, 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-Rojí, Jon Sáenz, Gabriel Ibarra-Breastegi
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-Villagrasa, 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
Deutscher Wetterdienst, Meteorologisches Observatorium Lindenberg, Tauche - OT Lindenberg, 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 (jnzou.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-Soop 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 Kozai, 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@camscma.cn)

END OF POSTER PROGRAMME OBS1
### Tuesday, 13 September 2016

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

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
Convener: Frank Beyrich
Co-Convener: 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 García 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 Typhone Mugigea
Zhaohui Li, Donghai Wang, Lijun Yan, Jianjun Zhu, Xuehu Mai
Foshan Meteorological Service, Foshan, Guangdong, China

09:45–10:00: Distributed Environmental Measuring System (EMS Technology Achievement Award 2016)
Bojan Černač

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

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
Chairperson: Dan Hollis

Climate Data Management

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)

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
Convener: 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 Verdècchia
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)

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)

UC4 The Cryosphere and its interactions with the climate system

UC4 The Cryosphere and its interactions with the climate system

Lecture room: Vulcania 2

Convener: Renato R. Colucci
Co-Conveners: 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 Úgo 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

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

**Chairperson:** Dario Giaiotti

09:00—09:15:  
1-minute espressi 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 Gvozdiková, 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, Giglio Annachiara, Gianesini Elena, Montanari Francesco**  
ARPA FVG - CRMA, Regional Center for Environmental Modeling, Palmanova, Italy (dario.giaiotti@arpa.fvg.it)

**CE1 Media and Communication**

**Lecture room:** Oceania C

**Convener:** 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 (PHoepe@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.blokar@ad-vega.si)

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

END OF ORAL PROGRAMME ASI8
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. Guiljarro, José A. López, Ênric 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, Juntepec, Mexico (jsalinas@itlloc.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
University degli Studi di Milano, Departement 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 espressi 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 Developement, 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 Breccie 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
Vincent Altava-Ortiz, Antoni Barrera-Escoda, Jessica 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 Rebescos, 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)

ENSO influence on the North Atlantic European climate: a non-linear and non-stationary approach
Jorge Lopez Parages, Belen Rodriguez-Fonseca, Dietmar Dommengent, 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

11:00–11:15: Are TV weather forecasts becoming obsolete in the era of social media?  
Jay Trobec  
KELO TV, USA (jay@trobec.net)

11:15–11:30: The Future of TV Weather Reports (solicited)  
John Teather  
Larkshill 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: EMS Journalist Award – Stéphane Foucart

12:00–12:15: Creating a Virtual Museum of Meteorology: Challenges and Perspectives  
Panos Giannopoulos, Ioannis Poullos  
Hellenic National Meteorological Service, Athens, Greece (pgiannop1@yahoo.com)

12:15–12:30: The Tempest  
Hans Olav Hygen, Morten Cranner, Reidun Ganstø Skaland  
Norwegian Meteorological Institute, Oslo, Norway (hans.olav.hygen@met.no)

12:30–12:45: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 Räsänen, 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
Conveners: Antti Mäkelä
Co-Conveners: 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 Láng, 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 Nummi
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 Nes, 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 Szabó 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 Grosfeld

17:00–17:15: EMS2016-150
Evaluating Co-Creation of Knowledge: Quality Criteria and Indicators
Susanne Schuck-Zöller, Jörg Cortekar, Irene Fischer-Bruns, Stefan Füser, 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 Born, 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@nersc.no).

17:30–17:45: **EMS2016-334**  
Nocturnal surface thermal inversions in the Pannonian Basin  
**Joan Cuxart,** Tamás Weidinger, Burkhard Wrenger, Blazenza Matjasic, Gemma Simó, Daniel Martínez-Villagrasa, Arpad Bordas, Agoston Tordai, Peter Torna, 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 Sorbjan**  
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.lemoigne@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**

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**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

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

17:30–17:45: **EMS2016-757**  
The predictability of the multidecadal component of the Mediterranean SST variability  
**Ortizbevia Maria,** RuizdeElvira Antonio, Alvarez-García Francisco J.  
University of Alcala, Physics, Alcala, 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 Matera, 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-Convener:* Hermann Mächel, Victor Venema, Ingeborg Auer, Dan Hollis  
*Poster area:* Hall  
*1-minute espressi-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,** Mónica 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 Zahradiček,** Petr Štěpánek, Radim Tolasz, Jiří Hostýněk  
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 Climato! 3.0  
**José A. Guijarro**  
AEMET (State Meteorological Agency), Balearic Islands Office, Palma de Mallorca, Spain (jguijarrop@aemet.es)

**H6: EMS2016-417**  
A Fundamental Climate Data Record of SSM/I & SSMIS brightness temperatures  
Karsten Fennig, Marc Schröder, Axel Andersson, Thomas Spanghel  
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 Fratianelli  
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  
Meteorology 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 Verver, 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, Mónica Herrero, Alba Liabrés, 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 Ivanáňaková, 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 espressi-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/SEEVCC, 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 Rodríguez-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 Spini, 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@cirrus.dhz.hr)

H26: EMS2016-756
Assessment of Climate Change Effects on Continentality in Europe
Michal Belda, Tomas Halenka, Jaroslava Kalvova, Eva Haltanova
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 Macri, Giovanni Muscar, 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
UFRRJ, IEGO, 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
UFRRJ, IEGO, 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 Doliati, Carlo D’Agata, Davide Maragno, Davide Fugazza, Claudio Smiraglia
Dipartimento di Scienze della Terra "A. Desio", Università degli Studi di Milano, Milano, Italy

END OF POSTER PROGRAMME ISMARR

SE3/AM2 Severe weather impacts for the European society in the past, present and future
Convener: Antti Mäkelä
Co-Conveners: 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 Mugigia
Zhaohui Li, Donghai Wang, Lijun Yan, Jianjun Zhu, Xuehu Mai
Foshan Meteorological Service, Foshan, Guangdong, China (lzh0123333@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)

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
Victor 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 (moghero@ictp.it)

G12: EMS2016-535
Effect of evapotranspiration on isotopic composition of precipitation
Hajnalika Breuer, György Csupspon, Gergő Simon, Júlia Gondóccs, Emese Bottyán, Zoltán Kern
Eötvös Loránd University, Department of Meteorology, Budapest, Hungary (hbajni@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
AS16/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 (jedruszkiewicz@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 AS16/UC8

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AS18 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 Geoenvironment, 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)

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 (arfrius@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 Toralba, Albert Soret, Nube Gonzalez-Rezinego, 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

<table>
<thead>
<tr>
<th>Room</th>
<th>Saturnia</th>
<th>Vulcania 1</th>
<th>Oceania AB</th>
<th>Oceania C</th>
<th>Vulcania 2</th>
<th>Room</th>
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<tr>
<td>10:30</td>
<td>Coffee Break</td>
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<tr>
<td>11:00–13:00</td>
<td>ASI13</td>
<td>UC7 until 12:15</td>
<td>UC6: Global and regional reanalyses</td>
<td>AM1: High Impact Weather</td>
<td>CE4: Adaptation Strategies</td>
<td>ASI7/CE10</td>
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<td>13:00</td>
<td>Lunch Break</td>
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<td>14:00–14:55</td>
<td>1-minute espressi-talks (poster intro)</td>
<td>Poster Session</td>
<td>1-minute espressi-talks (poster intro)</td>
<td>14:00–14:30</td>
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<td></td>
<td>NWP1 (room Oceania AB)</td>
<td>HALL: Poster boards H1-H78</td>
<td>OBS3 (room Vulcania 2)</td>
<td>GALLERY: Poster boards G1-G56</td>
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<td></td>
<td>UC6 – UC7 – SE2</td>
<td>AM1</td>
<td>ASI7/CE10</td>
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<td>NWP1</td>
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<tr>
<td>15:00–17:00</td>
<td>ASI13</td>
<td>UC6</td>
<td>NWP1: Dynamics and predictability of high impact weather</td>
<td>14:30</td>
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<td></td>
<td>15:00: Lecture Technology Achievement Award</td>
<td>CE7: Quality Management and Infrastructure</td>
<td>OBS3: Meteorological observations from ground and space-based Global Navigation Satellite System (GNSS)</td>
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<td>17:00</td>
<td>Refreshment Break</td>
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<tr>
<td>17:30–19:00</td>
<td>ECAC Symposium</td>
<td>Room Saturnia</td>
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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:** Vulcana 1

**Conveners:** Radan Huth; Rasmus Benestad

**Chairperson:** Maria Hatzaki

**Statistical (empirical) downscaling**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>09:00–09:30</td>
<td>EMS2016-214 Using principal component analysis in empirical-statistical downscaling to emphasise synoptic scales (solicited)</td>
</tr>
<tr>
<td></td>
<td>Rasmus Benestad, Abdelkader Mezghani, Kajsa Parding, Deliang Chen, Lijun Fan</td>
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<tr>
<td></td>
<td>Norwegian Meteorological Institute, Research and Development, Oslo, Norway</td>
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<tr>
<td></td>
<td>(<a href="mailto:rasmus.benestad@met.no">rasmus.benestad@met.no</a>)</td>
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<th>Time</th>
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<tbody>
<tr>
<td>09:30–09:45</td>
<td>EMS2016-718 Validation of spatial and temporal characteristics simulated by a variety of downscaling models: Results of the VALUE project</td>
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<td></td>
<td>Radan Huth, Martin Widmann, Douglas Maraun, José Manuel Gutiérrez, Elke Hertig, María Jesús Casado, Judit Bartholy, Rita Pongrác, Joaquin Bedia, Andrews Fischer</td>
</tr>
<tr>
<td></td>
<td>Charles University, Faculty of Science, Dept. of Physical Geography and Geocology, Praha 2, Czech Republic (<a href="mailto:huth@ufa.cas.cz">huth@ufa.cas.cz</a>), Institute of Atmospheric Physics, Czech Academy of Sciences, Praha 4, Czech Republic</td>
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<th>Time</th>
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<tr>
<td>09:45–10:00</td>
<td>EMS2016-478 Future changes in precipitation statistics on high spatial and temporal resolution using a conditional stochastic model</td>
</tr>
<tr>
<td></td>
<td>Aristita Busuioc, Alexandru Dumitrescu, Felicia Carbunaru</td>
</tr>
<tr>
<td></td>
<td>National Meteorological Administration, Climatology, Bucharest, Romania (<a href="mailto:alexandru.dumitrescu@gmail.com">alexandru.dumitrescu@gmail.com</a>)</td>
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**SE2 The Copernicus Climate Change Service implemented by ECMWF**

**Lecture room:** Oceania C

**Conveners:** Dick Dee; Jean-Noël Thepaut

**Co-Convener:** Carlo Buontempo

**Chairperson:** Jean-Noël Thepaut

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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>09:00–09:15</td>
<td>1-minute espresso talks (poster introductions)</td>
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<tr>
<td>09:15–09:30</td>
<td>EMS2016-740 EDgE, a Sectoral Information System for the water sector</td>
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<tr>
<td></td>
<td>Christel Prudhomme, Gwyn Rees, Luis Samaniego, Glenn Watts, Helen Houghton-Carr</td>
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<tr>
<td></td>
<td>CEH, HRR, Wallingford, United Kingdom (<a href="mailto:chrp@ceh.ac.uk">chrp@ceh.ac.uk</a>)</td>
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<tr>
<td>09:30–09:45</td>
<td>EMS2016-629 Urban SIS - Climate information for European Cities</td>
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<tr>
<td></td>
<td>Heiner Körnich, Esbjörn Olsson, Jorge Armon, Patrick Samuelsson, David Segersson, Lars Gidhagen</td>
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<tr>
<td></td>
<td>SMHI, Research Department, Norrköping, Sweden (<a href="mailto:heiner.kornich@smhi.se">heiner.kornich@smhi.se</a>)</td>
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<th>Time</th>
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<tbody>
<tr>
<td>09:45–10:00</td>
<td>EMS2016-661 The Copernicus Climate Change Service ’European Climatic Energy Mixes (ECEM)’</td>
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<tr>
<td></td>
<td>Alberto Troccoli and the ECEM Team</td>
</tr>
<tr>
<td></td>
<td>UEA, School of Environmental Sciences, United Kingdom (<a href="mailto:alberto.troccoli@wemcouncil.org">alberto.troccoli@wemcouncil.org</a>)</td>
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<th>Time</th>
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<tr>
<td>10:00–10:15</td>
<td>EMS2016-187 UERRA regional reanalysis products, data services, quality and user interaction</td>
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<td></td>
<td>Per Undén, Manolya Brunet, Richard Renshaw, Andrea Kaiser-Weiss, Else van den Besselaar, Phil Jones</td>
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<tr>
<td></td>
<td>Swedish Meteorological and Hydrological Institute (SMHI), Norrkoping, Sweden</td>
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<tr>
<td>10:15–10:30</td>
<td>EMS2016-751 CLIPC: From Big Data Science to Big Data Decisions</td>
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<td>Martin Juckes, Rob Swart, Lars Bärring, Annemarie Groot, Peter Thyse, Wim Som de Cerff, Victoria Bennett, Luis Costa, Johannes Lückenköter, Sarah Callaghan</td>
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<td>STFC, RAL Space, Chilton, Didcot, Oxon, United Kingdom (<a href="mailto:martin.juckes@stfc.ac.uk">martin.juckes@stfc.ac.uk</a>)</td>
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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)

**09:00–10:30**

**ASI13 Energy Meteorology**

**Lecture room:** Saturnia

**Convener:** Sven-Erik Gryning

**Co-Convener:** 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 Rodríguez-Benítez,* Clara Arbizu-Barrena, Samuel Quesada-Ruiz, Joaquín Tovar-Pescador, David Pozo-Vázquez

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 ASI7/CE10 CONTINUES ON WEDNESDAY, 11:00**

**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-Convener: 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 (gfleming@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
Conveners: 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 Jacobelt, Markus Homann, Andreas Philipp, Christoph Beck
University of Augsburg, Institute of Geography, Augsburg, Germany (jucundus.jacobelt@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
Convener: A. Kaiser-Weiss
Co-Conveners: Eric Bazile; Leopold Haimberger; Ge 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
Conveners: Ken Mylne; Adriaan Perrels
Co-Conveners: 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, Mandep 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: Vulcana 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 Mekjavic, Urša Ciuha, Ola Eiken, Tjaša Pogačar, Marco Morabito, Simon Orlandini, Alfonso Crisci, Lučka Kajež 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 Smec, 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 Kajež Bogataj, Urša Ciuha, Igor Mekjavic
Biotechnical faculty, University of Ljubljana, Ljubljana, Slovenia
(tjasa.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 Sinismanidis, 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 Bertrand
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 Geraldì, Elisabetta Ricciardelli, Filomena Romano, Mariassunta Viggiano
Institute of methodologies for environmental analysis, National Research Council, Tito Scalo, Italy (correspondence to: saverio.nil@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 Höppe
Head of Geo Risks Research/Corporate Climate Centre, Munich Re, Germany (PHoeppe@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 (wahlf@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, Cristiano 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 Szaboné 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 Schroeder-Homscheidt

15:00–15:15: EMS2016-182
WRF advection and diffusion of MSG cloud estimates for short-term solar radiation forecasting
Claire Arbizu-Barrena, Jose Antonio Ruiz-Arias, Samuel Quesada-Ruiz, Javier Rodriguez-Benitez, Joaquín 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 Siefert
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 Schroeder-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 Lilletuns Veil 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 Villasimunna, 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: EMS2016-777
OBS3 Meteorological observations from ground and space-based Global Navigation Satellite System (GNSS)
Lecture room: Vulcana 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.it)
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 Potiaux, Olivier Bock, Rosa Pacione
Met Office, Observations R&D, Exeter, United Kingdom (jonathan.jones@metoffice.gov.uk)

15:45–15:50: 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 Climate de l’Environnement, Gif sur Yvette, France (davide.faranda@cea.fr)

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, Pawel Hordyniec
Institute of Geodesy and Geoinformatics, Wroclaw University of Environmental and Life Sciences, Wroclaw, Poland

16:15–16:30: EMS2016-595
A GNSS-based bayesian technique for atmospheric profiling in extended area
Andrea Antonini, Riccardo Benedetti, Luca Royal, 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 Stoicheva, Guergana Guerova, Keranka Vassileva
Sofia University, Department of Meteorology and Geophysics, Sofia, Bulgaria (guerova@phys.unisofia.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)

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 Lemoinne, Eric Bazile, Rachid Abida, Camille Szczypa**  
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 espressi-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 Tosic, Vladimir Djurjjevic**  
University of Belgrade, Faculty of Physics, Dept.for Meteorology, Belgrade, Serbia (itoxic@ff.bg.ac.rs)  

**H44: EMS2016-252**  
Climate change projections of medicanes with a large multi-model ensemble of regional climate models  
**Raquel Romero, Miguel Angel Gaertner, Enrique Sanchez, 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 downsampling 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 Dezsö, Rita Pongrácz, Judit Barthalóy**  
Eötvös Loránd University Department of Meteorology, Budapest, Hungary (zsilinszki@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 Saïrouni**  
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

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)

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 evaportranspiration 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

SE2 The Copernicus Climate Change Service implemented by ECMWF
**Conveners:** Dick Dee, Jean-Noel Thepaut
**Co-Conveners:** Carlo Buontempo
1-minute espressi-talks: 09:00, Oceania C

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. Bleta,** Panagiotis T. Nastos
National and Kapodistrian University of Athens, University Campus GR 15784 Athens, Greece (ableta@geol.uoa.gr)
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 express 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 Baldysz, Karolina Szafranek, Grzegorz Nykiel, Andrzej Araszkiewicz, Mariusz Figurski
Military University of Technology, Institute of Geodetics, Warsaw, Poland
(zofia.baldysz@wat.edu.pl)

G55: EMS2016-568
GNSS Meteorology Studies in Ankara for the Comparison of Water Vapour Estimates
Emine Tanir Kayikci, Selma Zengin Kazanci, 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 Kažmařík, 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, Pawel Hordyniec, Witold Rohm
Geodetic Observatory Pecny, RIGTC, Zdiby, Czech Republic (JAN.DOUSA@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 express 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 Martinez-Villagrasa, 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
Verification 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
# Conference Programme – Thursday

## Thursday, 15 September 2016

<table>
<thead>
<tr>
<th>Time</th>
<th>Room</th>
<th>Saturnia</th>
<th>Vulcania 1</th>
<th>Oceania AB</th>
<th>Oceania C</th>
<th>Vulcania 2</th>
<th>Room</th>
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<tbody>
<tr>
<td>09:00–10:30</td>
<td>ASI13: Energy Meteorology</td>
<td>MC2: Spatial Climatology</td>
<td>SE4: From weather and climate predictions to impact forecasts</td>
<td>NWP3: Data assimilation and use of observations in meteorology and oceanography</td>
<td>CE6: Research and services in atmospheric sciences supporting science education</td>
<td>09:00–10:30</td>
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<td>10:30</td>
<td>Coffee Break</td>
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<td>11:00–13:00</td>
<td>ASI13</td>
<td>MC2</td>
<td>ASI5: Modeling the dynamics of coupled atmosphere-wave-ocean processes</td>
<td>NWP2: Numerical aspects and physical parametrization</td>
<td>CE5: Education</td>
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<td>13:00</td>
<td>Lunch Break</td>
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<td>Poster Session</td>
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<td>14:00–14:55</td>
<td>1-minute espressi-talks (poster intro)</td>
<td>NWP4 (room Oceania AB)</td>
<td>Café (espresso) provided 14:00-14:30</td>
<td>1-minute espressi-talks (poster intro)</td>
<td>ASI14 (room Vulcania 1)</td>
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<td>17:00</td>
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<td>17:30–18:00</td>
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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

Convener: Ole Einar Tveito
Co-Conveners: 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
Vincent Altava-Ortiz, Antoni Barrera-Escoda, Mercè Barnolas, Mònica Herrero, Aleix Serra, Abdel Sairouni, 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)

SE4 From weather and climate predictions to impact forecasts

Lecture room: Oceania AB

Convener: Silvio Gualdi
Co-Conveners: Swadhin Behera

09:00–09:15: 2-minute espressi 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
Conference Programme – Thursday

**ASI13 Energy Meteorology**

**Lecture room:** Saturnia  
**Convener:** Sven-Erik Gryning  
**Co-Conveners:** 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)

**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 Loubser*  
Met Office, Exeter, United Kingdom  
(felicity.liggins@metoffice.gov.uk)

**END OF ORAL PROGRAMME CE6**

ORAL PROGRAMME ASI13 CONTINUES ON THURSDAY, 11:00
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 Águeda, Lidia Cañas, Eusebi Vazquez, Claudia Grossi, Marta Comerma, Silvia Borras, Oscar Batet, Manel Nofuentes, Paola Ochipinti, 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, Valerio Capecchi, Bernardo Gozzini, Ramona Magno, Andrea Orlandi, Luca Rovai, Claudio Tei, Tommaso Torrigiani, Federica Zabini
CNR Ibitem, Italian National Research Council, Florence, Italy (v.grasso@ibimet.cnr.it), LaMMA Consortium, Italian National Research Council, Florence, Italy

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 espressi 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 Caltas 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 Hamisch, 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 Capecchi, Riccardo Benedetti, Lorenzo Bottai, Gianni Messeri, Andrea Orlandi, Alberto Orlotani, 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 CE5 CONTINUES ON THURSDAY, 11:00
ORAL PROGRAMME NWP3 CONTINUES ON THURSDAY, 11:00
Thursday, 11:00–13:00

**MC2 Spatial Climatology**

**Lecture room:** Vulcania 1

**Convener:** Ole Einar Tveito  
**Co-Conveners:** 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: 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-Conveners:** 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 Barbarioli, 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 Cavalieri, Francesco Barbarioli, 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 Elbem
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, Omduth 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.perssonsoederman@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 Siefert, Jan Dobschinski
Fraunhofer IWES, Kassel, Germany

12:30–13:00: 1-minute espressi talks (poster introductions)

ORAL PROGRAMME ASI13 CONTINUES ON THURSDAY, 15:00

CE5 Education
Lecture room: Vulcana 2
Convener: Tomas Halenka
Co-Conveners: 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 (p giannop1@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, Hein 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 Leelőssy, Zsuzsanna Dezső, Tamás Mona, Anna Zsilinszki, Attila Merics
Eötvös Loránd University Department of Meteorology, Budapest, Hungary (leelessyadam@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), Asuncion, 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 espressi 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 Brázdl*

*Co-Conveners: Ricardo García-Herrera; J. Fidel González-Rouco*

*Chairperson: Rudolf Brázdl*

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. Energias 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**

**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 (Arpae-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**

**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 Schoen
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**
ASI13 Energy Meteorology

Lecture room: Saturnia

Convener: Sven-Erik Gryning
Co-Conveners: Ekaterina Batchvarova; Lucien Wald; Marion Schroeder-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 Marcellino Miglietta, Marta Poncella 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 Larsen, 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

ASI14 Meteorological processes, atmospheric composition and pollution, including CAMS related activities

Lecture room: Vulcania 1

Convener: Charles Chemel
Co-Conveners: 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 Magliulo
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 Reinhart
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 Tsirigakis, Gert-Jan Steeneveld, Bert Holtslag
Wageningen University, Meteorology and Air Quality Section, Wageningen, Netherlands (gertjan.steeveveld@wur.nl)

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 Hryniew, 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 Gyöngyősi, 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-Convener: 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
Arpae-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
LTHE, 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 You  
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 Řezníková, Oldřich Kotyza, Hubert Valašek, Lukáš Došák, Silvie Suchánková  
Masaryk University, Institute of Geography, Brno, Czech Republic, 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**

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**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 (dcclima@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  
**Guylaime 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  
Advected 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  
The 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-Conveners: 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 Bieerbooms, 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, Nikola 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: Vulcana 1

Convener: Charles Chemel
Co-Conveners: 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, Elja Asmi, Veijo Aaltonen, Ulla Makkonen, Veit-Matti Kerminen
Finnish Meteorological Inst., Research & Development, Helsinki, Finland (heikki.ihavainen@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, phillip.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 Potthast
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
Arpae-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
MC2 Spatial Climatology

Convener: Ole Einar Tveito
Co-Conveners: Mojca Dolinar, Christoph Frei
Poster area: Hall
1-minute espressi-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, 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
Irena Nimac, Melita Perčec 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.
Katarina Mikulová, Elwira Zmudzka, 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 Hottanainen, 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 Dubrovsky, 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

Convener: Rudolf Brázdil  
Co-Conveners: Ricardo Garcia-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 Řezníčková  
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 Řezníčková, 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 Hällströmkatu 2a, 00014 Helsinki, Finland

END OF POSTER PROGRAMME MC3

SE4 From weather and climate predictions to impact forecasts

Convener: Silvio Gualdi  
Co-Conveners: Swadhin Behera  
Poster area: Hall

1-minute espressi-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 Yang, 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

**Convener:** Mario Marcello Miglietta  
**Co-Conveners:** Anna Maria Sempreviva, Manel Grifoll, Silvio Gualdi  
**Poster area:** Gallery  
**1-minute expressi-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 off the 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-Conveners:** Huw Lewis, Joanna Staneva, Alvise Benetazzo  
**Poster area:** Gallery  
**1-minute expressi-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 Eireann, 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, Annetta Mantzifou, Benedikt Strajnar, Jure Cedilnik, Maja Jeromel, Jure Jerman, Sašo Petan, Alvise Benetazzo, Sandro Carniel, Viado 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. Warer, Francesco Barbariol, 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
Gil Lemos, Arno Behrens, Mikhail Dobrynin, Pedro M. A. Miranda, Alvaro Semedo, Joanna Stanewa
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

Convener: Sven-Erik Gryning
Co-Conveners: Ekaterina Batchvarova, Lucien Wald, Marion Schroedter-Homscheidt
Poster area: Gallery
1-minute espressi-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 Ohtake, 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-Ndeffotsing, 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, Dimitar 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
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, Vladimir 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@mhtehi.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.noie@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 espressi-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 Hydrospheric Physics (CINFAI), Rome, Italy
G44: EMS2016-480
Validation of gas phase chemistry modules used in WRF/chem model on domain including Europe
Jan Karlický, 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
LarGé, Université des Antilles, Pointe-A-Pitre, Guadeloupe (jack.molini@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 (daniel.reinert@dwd.de)

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 Bunte Meyer, 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 Zénő Gyöngyösi, Tamás Gál
Department of Climatology and Landscape Ecology, University of Szeged, Szeged, Hungary
(molnarge@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 espresso-talks: 09:00, Oceania C

Chairperson: Alexander Cress

H63: EMS2016-169
Using mobile observations in road weather forecasting
Virve Karsisto, Pertti Nummi
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, Gongju, 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 Bouallegue, Susanne Theis  
Deutscher Wetterdienst, Research and Development, Offenbach, Germany (tobias.heppelmann@dwd.de)

END OF POSTER PROGRAMME NWP4
### Conference Programme – Friday

**Friday, 16 September 2016**

<table>
<thead>
<tr>
<th>Time</th>
<th>Room</th>
<th>Session Details</th>
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</thead>
<tbody>
<tr>
<td>09:00–10:30</td>
<td>Saturnia</td>
<td><strong>UC1:</strong> Climate change detection, assessment of trends, variability and extremes</td>
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<td>10:15: 1-min espressi-talks; NWP7-AM5/UC3</td>
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<td><strong>AM6/NWP5:</strong> Subseasonal-to-seasonal (s2s) predictions and societal applications</td>
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<td><strong>OBS2:</strong> High-resolution precipitation monitoring for impact assessment and climate-related applications</td>
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<td></td>
<td><strong>ASI10:</strong> Interfacing hydrological and meteorological models in forecasting system 10:15: 1-min espressi-talks: ASI11</td>
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<tr>
<td>11:30–13:00</td>
<td>HALL:</td>
<td>Coffee Break &amp; Poster Session</td>
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<td><strong>HALL:</strong> Poster boards H1-H75</td>
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<td><strong>UC1</strong></td>
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<td><strong>AM5/UC3, AM6/NWP5 NWP7</strong></td>
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<tr>
<td>13:00</td>
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<td>Lunch Break</td>
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<td>14:00–16:00</td>
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<td><strong>UC1</strong></td>
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<td><strong>AM5/UC3:</strong> Climate Forecast Verification</td>
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<td><strong>AM6/NWP5</strong></td>
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<td><strong>OBS2</strong></td>
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<td><strong>ASI11</strong></td>
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<tr>
<td>16:15</td>
<td></td>
<td>Small reception, announcement poster award winner 2016, closing: Foyer Hall</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
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<td>Co-Conveners: Monika Lakatos; Martine Rebetez</td>
</tr>
</tbody>
</table>

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, Gérald 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 espressi talks (poster introductions)

ORAL PROGRAMME UC1 CONTINUES ON FRIDAY, 11:30

AM6/NWP5 Subseasonal-to-seasonal (s2s) predictions and societal applications

<table>
<thead>
<tr>
<th>Lecture room: Oceania AB</th>
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</tr>
<tr>
<td>Co-Conveners: Laura Ferranti; Joanne Robbins; Andrew W. Robertson; Adrian Tompkins; Frederic Vitart</td>
</tr>
</tbody>
</table>

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 espressi 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, Stanislav 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 Schirrer, 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
DCSC, METEO FRANCE, Toulouse, France (francois.besson@meteo.fr)

10:00–10:15: 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 Besselar, Gerard van der Schrier, Richard Cornes
Royal Netherlands Meteorological Institute (KNMI), De Bilt, Netherlands (besselar@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 Besselar, 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, Laarmen Olivier, Morin Samuel, Lebel Thierry, Matthieu Lafayse, 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 Grazzioli, Christophe Genthon, Alexis Berne
EPFL, EPFL-ENAC-IIE-LTE, Switzerland (jacopo.grazzioli@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

**Convener:** Albert M.G. Klein Tank  
**Co-Conveners:** 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*  
*Shifá Mathbout, Joan Albert Lopez Bustins, Javier Martín-Vide, Fernando Sánchez Rodrigo, Joan Bech Rastullet*  
University of Barcelona, Q-0818001-J U00400025 U00400025, Physical Geography and Regional Geographical Analysis, Barcelona, Spain  
(shifama@ictp.it)

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 (iplma@ictp.it), 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  
(coppolah@ictp.it)

**ORAL PROGRAMME UC1 CONTINUES ON FRIDAY, 14:00**

**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:** 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 Harms, 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-ISISAC, 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 Ardlouze, 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: EMS2016-274
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

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 Forschungsge 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

Convener: Albert M.G. Klein Tank
Co-Conveners: 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 Geocology, 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 (foxy13@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 You
Laboratoire des sciences du climat et de l’environnement (LSCE). Université Paris-Saclay, LSCE, Gil-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 times 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 Siihen, 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

Convener: Pertti Nurmi
Co-Conveners: 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
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
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)

14:00–14:15: EMS2016-64
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Constantin Ardilouze, Prodhomme Chloé, Batté Lauriane, Déqué Michel
Meteo France, CNRM, Toulouse, France (constantin.ardilouze@meteo.fr)
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@cptec.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 Glöwenk-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 Development, 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)

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, Vakhthang 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: Vulcana 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 Niemann, 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 Szymanski, 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 Bližňák
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
Delft University of Technology, Watermanagement Department, Delft, Netherlands (j.a.e.tenveldhuis@tudelft.nl)

END OF ORAL PROGRAMME OBS2
Posters Friday, 10:30–11:30

UC1 Climate change detection, assessment of trends, variability and extremes

Conveners: Albert M.G. Klein Tank
Co-Conveners: Monika Lakatos, Martine Rebetez
Poster area: Hall
1-minute expressi-talks: 10:00, Saturnia

H16: EMS2016-87
Paolo Boi
ARPAS, Sassari, Italy (pboi@arpa.sardegna.it)

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 Minárová, Miloslav Müller, Alain Clappier
Laboratoire Image, Ville, Environnement, University of Strasbourg, Strasbourg, France (jana.minarova@live-cnrs.unistra.fr), Department of Physical Geography and Geocology, Faculty of Science, Charles University in Prague, Prague, Czech Republic (minarovj@natur.cuni.cz)

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 (tsubota@obirin.ac.jp)

H19: EMS2016-279
The occurrence of convective systems with a bow echo in warm season in Poland
Daniel Celinski-Myslaw
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
Finnish Meteorological Institute, Helsinki, Finland (kirsti.jylha@fmi.fi)

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

H24: EMS2016-500
How does the climate change modify everyday life of Poles?
Małgorzata Szwed
Polish Academy of Sciences, Institute for Agricultural and Forest Environment, Poznan, Poland (mszewed@man.poznan.pl)

H25: EMS2016-532
Climate impact on large temperate river (River Salaca) ecosystem in Latvia
Gunta Springe, Janis Birzaks, Agrita Briede, Ivars Druvietis, Dāvis Ozoliņš, Valerija Rodinovs, Agnija Skuja
University of Latvia, Faculty of Geography and Earth Science, 19 Raina Blvd., Riga LV 1586, Latvia (gunta.springe@lu.lu)

H26: EMS2016-554
Warm and cold spells in Alaska and their synoptic background
Agnieszka Sulikowska
Department of Climatology, Jagiellonian University, Krakow, Poland (a.sulikowska@uj.edu.pl)

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
Centre for Ocean and Atmospheric Sciences, University of East Anglia, Norwich, UK (s.dorling@uea.ac.uk)

H28: EMS2016-618
European summer heat of 2015 in a long-term perspective and atmospheric circulation peculiarities
Andreas Hoy, Stephanie Hänsel
Hessian Agency for Nature Conservation, Environment and Geology, Rheingaustr. 186, 65203 Wiesbaden, Germany

H29: EMS2016-632
The trends and variability of climate extremes in Latvia
Agrita Briede, Zanita Avotniece, Lita Koreška
University of Latvia, Faculty of Geography and Earth Sciences, Riga, Latvia (agrita.briede@lu.lu)
H30: EMS2016-672
Climate types in Slovenia, based on climate normals, trends and variability
Katija Kozjek, Mojca Dolinar, Gregor Vertačnik
Slovenian Environment Agency, Meteorological Office, Ljubljana, Slovenia (m.dolinar@gov.si)

H31: EMS2016-713
Heavy rainfall - estimation of IDF curves for Hungary
Monika Lakatos, Lilla Hoffmann, Zita Bihari, Tamás Szentiimrey
Hungarian Meteorological Service, Climate Division, Budapest, Hungary (lakatos.m@met.hu)

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
Environment Canada (barrie.bonsal@canada.ca)

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 Marzelon
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 Geocology, 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-EEceiza
CIEMAT, Dpt. of Energy, Madrid, Spain (elgarcia@ucm.es)

AM5/UC3 Climate Forecast Verification
Convener: Pertti Nurmi
Co-Conveners: Anna Ghelli, Barbara Casati
Poster area: Hall
1-minute expressi-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 (liu07@lzu.edu.cn)

H44: EMS2016-272
How well do regional climate models reproduce mean seasonal precipitation over Europe?
Ivana Herceg-Bulić, Ivan Güttler, Čedo Branković
Faculty of Science, University of Zagreb, Geophysical Institute, Zagreb, Croatia (hercegb@gfz.hr)

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 expressi-talks: 10:15, Oceania AB
Chairperson: Adrian Tompkins

H45: EMS2016-316
Canadian Sub Seasonal to Seasonal Forecasting System
Marko Markovic, Hai Lin, Normand Gagnon
Environment Canada (marko.markovic@canada.ca)

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 Liedo, Pierre-Antoine Bretonnier, 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)

END OF POSTER PROGRAMME UC1
END OF POSTER PROGRAMME AM5/UC3
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
(ismin9@gmail.com)

END OF POSTER PROGRAMME AM6/NWP5

ASI10 Interfacing hydrological and meteorological models in forecasting system

Convener: Massimiliano Zappa
Co-Convener: 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
Éötvös 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 Dezso, Judit Bartholy
Éötvös Loránd University Department of Meteorology, Budapest, Hungary
(diancsenge@gmail.com)

G19: EMS2016-724
Urban heat island phenomenon and related meteorological effects over central Europe: a multi-model assessment
Peter Huszar, Michal Belda, Jan Karlicky, Tomas Halenka, Michal Ronovsky
Charles University, Faculty of Mathematics and Physics, Dept. of Atmospheric Physics, Prague, Czech Republic
(huszarpet@gmail.com)

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
Wupperverband, Wuppertal, Germany (schei@wupperverband.de)

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
FMI, Helsinki, Finland (ljubov.liman@fmi.fi)

G55: EMS2016-262
Radar-based precipitation climatology of the Czech Republic in the warm part of the year
Vojtěch Blizňák, Marek Ka’par, Miloslav Müller
Institute of Atmospheric Physics, CAS, Department of Meteorology, Prague 4, Czech Republic (bliznak@ufa.cas.cz)

G56: EMS2016-745
On the potential role of radar technology in the Global Climate Observing System
Andreas Becker
DWD, Hydrometeorology, Offenbach, Germany (andreas.becker@dwd.de)

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 (manfred.dorninger@univie.ac.at)

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
Laboratoire de Modélisation des Transferts dans l’Environnement, CEA Cadarache, France (florian.dupuy@cea.fr), Laboratoire d’Aérologie, University of Toulouse, CNRS, Toulouse, France (pierre.durand@aero.obs-mip.fr)

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

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**Motivation**

As the ocean, the long-term memory of the (deep) soil exhibits potential seasonal-to-decadal predictability. (*Dorigo et al. (2014)*)

**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**

**Results**

Filter analysis with spin-up (forcing only) and truth over one year:

**State estimation**

One observation per day already valuable:

- Soil temperature & moisture are estimated more reliably and quicker than with spin-up

**Technical setup**

- Domain: Africa, decade 2001-2010, within the MiKlip-DEPARTURE project
- TERRA-ML coupled with Parallel Data Assimilation Framework (PDAF)
- Use Local Ensemble Transform Kalman filter (LETKF)

**Methodology**

- Create land surface re-analysis 1979-2010 using WATCH forcing data
- Additionally assimilate satellite soil moisture in 2000

**Data assimilation system**

Generates soil initial conditions

**Satellite observations**

- Daily ESA CCI surface soil moisture in year 2000
- Includes uncertainty information: used as observation error in DA system
- Soil temperature unobserved, but is updated through correlations with soil moisture

**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

**References**


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