EMS Annual Meeting 2019

European Conference for Applied Meteorology and Climatology 2019

PROGRAMME

COPENHAGEN, DENMARK | 9–13 SEPTEMBER 2019

The Arctic: the new frontier for weather, ice and climate research, forecasting, and services

EMS2019: Session programme

Day & Time	Oticon Hall	Glass Hall	M1	S1	S9	S4	Poster Sessions	Date
Mon, 09:30-11:00	Opening							9 Sept
Mon, 11:30-12:45	20 years EMS Awards Part I							
Mon, 14:00-16:00	ES1.1	UP2.4	UP1.5	UP3.6	OSA1.11	ES1.7		
Mon, 16:30-18:00	UP2.8 (5)	UP2.9	UP1.5	Harry Otten Prize - Finalists	OSA1.2	ES1.7		
Mon, 18:15-19:00	Townhall Meeting							
Mon, 19:15-20:30	**Ice breaker & poster session & networking: Sports Hall**						**ES1.1, ES1.7, OSA1.11, UP1.5, UP2.8, UP3.6**	
Tue, 09:00-09:30	Keynote OSA							10 Sept
Tue, 09:30-10:00	Awards Part II							
Tue, 10:00-11:00	**poster session & networking & refreshment break: Sports Hall**						**OSA1.2, UP1.5, UP2.4, UP2.9**	
Tue, 11:00-13:00	ES1.2	UP1.7	UP1.5	UP3.5	OSA2.1	OSA3.7		
Tue, 14:00-16:00	UP3.1	UP1.7	OSA1.10	UP3.5	OSA1.3	UP2.2		
Tue, 16:30-18:30	UP3.1	OSA2.3	OSA1.9	OSA2.2	UP2.1	UP2.2	**OSA1.10, UP1.7**	
Wed, 09:00-09:30	Keynote ES							11 Sept
Wed, 09:30-10:30	**poster session & networking & refreshment break: Sports Hall**						**ES1.2, ES1.3, OSA1.3, OSA1.9, OSA2.1, OSA2.2, OSA2.3, OSA3.7, UP2.1, UP2.2, UP3.1, UP3.5**	
Wed, 10:30-12:30	UP2.6	OSA2.3	UP1.3	ES1.3	OSA1.5			
Wed, 13:30-15:30	UP2.6	ES2.1	UP1.3	UP3.2	OSA1.5			
Wed 16:00-18:00	UP1.6	ES2.1/ES3.2	UP3.7	UP3.2	OSA1.7			
Thur, 09:00-09:30	Keynote UP							12 Sept
Thur, 09:30-10:30	**poster session & networking & refreshment break: Sports Hall**						**ES2.1, OSA1.5, OSA1.7, OSA3.5, UP1.3, UP1.6, UP2.5, UP2.6, UP2.7, UP3.2, UP3.7**	
Thur, 10:30-12:30	UP1.1	OSA3.3	UP2.5	UP1.6	OSA3.4	ES3.1		
Thur, 13:30-15:30	UP1.1	OSA3.2	OSA2.4	UP2.7	OSA3.5	UP1.4		
Thur, 16:00-18:00	UP1.2	OSA3.1	OSA2.4	UP3.4	ES1.6	UP2.3		
Fri, 09:00-10:30	UP1.2	UP3.3	ES1.4	OSA1.6	ES1.6			13 Sept
Fri, 10:30-11:30	**poster session & networking & refreshment break: Sports Hall**						**ES1.4, ES1.6, OSA1.4/ES1.5, OSA1.6, OSA2.4, OSA3.1, OSA3.2, OSA3.3, OSA3.4, UP1.1, UP1.2, UP1.4, UP2.3, UP3.3, UP3.4**	
Fri, 11:30-13:30	UP1.2	UP3.3	OSA1.4/ES1.5	OSA1.6	ES2.2			
Fri, 13:50-14:30	**Closing reception: Sports Hall**							
Day & Time	**Oticon Hall**	**Glass Hall**	**M1**	**S1**	**S9**	**S4**		Date

Copernicus Meetings
The Professional Congress Organizer

The EMS Annual Meeting: European Conference for Applied Meteorology and Climatology 2019
is organized in co-operation with the Copernicus GmbH.

http://meetings.copernicus.org

The Arctic: the new frontier for weather, ice and climate research, forecasting, and services

Dear participants, welcome to the EMS Annual Meeting 2019 in Copenhagen.
The Annual Meeting of the EMS – the conference for applied meteorology and climatology – aims to foster the exchange and cross-fertilization of ideas in the meteorological, climatological and related communities, focusing particularly on applications, science and strategic issues relevant to the future of these disciplines in Europe. Facilitating interactions, integration and engagement of science, applications, and actors is our core objective. The particular focus of the Annual Meeting in 2019, reflecting the interests and activities of the host country, is on Arctic issues and challenges.

The changes we witness in surface temperature, sea-ice and permafrost can have dramatic impacts on the ecology and societies of the Arctic, raising issues for future safety, socio-economic impacts and infrastructure investments. Moreover, this Arctic amplification may affect mid-latitudes, possibly with more frequent extreme weather events, and thus needs dedicated attention.

The EMS 2019 Annual Meeting will address these issues in an integrated and comprehensive way.

The programme
The session programme includes 400 poster and 450 oral presentations in 52 sessions. All these presentations share the essential role of the conference – offering diverse opportunities for discussions and promoting the work of the various authors. Poster sessions are scheduled in the mornings after the plenary sessions, and 10:30-11:30 on Friday.

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

Detailed and up-to-date information about the session programme is available through the ***ems2019-app*** for mobile devices.

The exhibition – use the opportunity
The conference will feature a small exhibition involving manufacturers of meteorological instruments, research projects, a publisher and NGOs. It will be open from Monday lunchtime to Thursday afternoon and we hope you will make use of the opportunity to find out about the recent developments and plans of these organisations.

Early career scientists
About a third of the EMS Annual Meeting participants are early career scientists. To increase the benefit for those at the start of their career, an event has been devised that will offer opportunities and first steps to mentoring support. Experienced actors with diverse backgrounds in all sectors of the weather enterprise will be ready to answer and discuss any questions about topics such as job perspectives, career path options, building networks. All early career scientists are invited to this one-hour mentoring event, but registration is mandatory.

Guided tours
DMI, the Danish Meteorological Institute, will offer visits to its headquarters during the conference on two afternoons. The Niels-Bohr Institute of the University of Copenhagen will also offer a visit to its archive of ice cores.

Thank you
We are grateful to all who have contributed to make this meeting in Copenhagen a reality – the local organising committee, the EMS Member Societies and Associates, the Copernicus organisation, the exhibitors, and the volunteer helpers.

To build the session programme would not have been possible without the work of the convenors who developed and promoted the sessions. Our 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. We hope you will enjoy and benefit from the wealth of research, results and applications that will be presented and discussed during the week.

Bob Riddaway	**Sven-Erik Gryning**	**Marianne Thyrring**	**Peter Hauge Madsen**
EMS President	President, Danish Meteorological Society	Director Danish Meteorological Institute	Director, DTU Wind Energy Department

Good to know …

General information, WiFi, ems2019-app

About this programme book

The EMS aims at making the Annual Meeting more sustainable and to minimize the use of resources. During the abstract submission, authors were asked to indicate whether a printed programme book is needed. 80% of the authors indicated that they would not need a programme book. Thus, only a limited number of programme books is available on request. Copies for everyone's use will be distributed around the conference venue; personal copies will be handed out on request at the registration desk. The PDF file of the programme book is also available for download on the website.

The mobile app with continuous updates and the EMS2019 website offer the option of generating and printing your own personal programme**.**

Venue

The EMS Annual Meeting: European Conference for Applied Meteorology and Climatology 2019 is held at DTU in Lyngby, Denmark, from 9 to 13 September 2019.

Technical University of Denmark
DTU Mødecenter
Anker Engelundsvej 1
Building 101B
Lyngby

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.

Rules of conduct

- Smoking is prohibited in the conference venue.
- It is prohibited to copy any presentation from the desktops in the lecture rooms.
- Please switch off any mobile phones or set them in mute mode during the sessions.
- Harassment, intimidation, or discrimination of any kind will not be tolerated at any event associated with the EMS2019.
- Please note that **video and photo recordings of scientific material** shown in any oral or poster presentations are not allowed unless the presenter authorizes it. Presenters are encouraged to inform the audience if they welcome photos or sharing on social media by including the official graphic "photography encouraged" or "photography NOT allowed" on your presentation .

Insurances

The organisers cannot accept liability for personal accident, loss, or damage to private property which may be incurred as a result of 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.

Photos, webcasts, graphics

Parts of the EMS Annual Meeting 2019 will be recorded. By registering, participants acknowledge and consent that during their attendance at the EMS Annual Meeting 2019 their image or voice may be recorded via video, photograph, or any other means ("recorded") by an official of the conference or designated staff. This material may be distributed or published at the discretion of the European Meteorological Society and EMS Member Societies. This material may also be published by Copernicus GmbH on behalf of the European Meteorological Society.

Photos of some of the plenary sessions and the Media session will be taken by Thorsten Iversen. In addition a few events will be graphically recorded by *Creative Support*.

Cover picture

The cover picture was kindly provided by and is copyrighted to Lise Lotte Sørensen.

Local transportation information

Information on local transportation to and from the venue is available at https://www.ems2019.eu/venue_and_travel/how_to_get_there.html

Shuttle buses, marked with "EMS2019" will run from Lyngby station to the DTU campus in the mornings and from DTU to the station in the evening after the sessions.
A more detailed schedule will be published on the conference website.

Lunch & snack options

The DTU provides a canteen and several cafes in the conference building and around. An overview map is available at https://www.ems2019.eu/venue_and_travel/good_to_know.html .

Wireless network access

Eduroam is available in the entire venue. Participants not using Eduroam can log in to the DTU guest wi-fi. Connect to the network "dtuguest" and enter your email address. You will get 10 min of internet access in order to confirm your email address by clicking the corresponding link in the confirmation email. The log in is valid for the entire day.

EMS2019 app

Download the EMS2019 app for iPhones and Android smartphones.

The EMS2019 app provides the complete programme, including all abstracts. You can synchronise your personal programme and the latest updates are always included. You have the option to contact authors of specific contributions directly via the app and use the built-in Twitter interface for posting tweets. The EMS2019 hashtag is #emsannual.

Registration information

Registration & information desk

The registration & information desk is located in the entrance hall 101B of the University building on the ground floor.

Opening hours

Sunday, 8 September 2019
15:00–18:00

Monday–Thursday, 9–12 September 2019
08:00–18:00

Friday, 13 September 2019
08:00–12:00

Registration fees cover access to all scientific events, refreshments during the coffee & tea breaks, and the icebreaker reception.

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 Sustainable Meetings Policy 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 https://www.emetsoc.org/events/
This programme book has been printed on recycled paper.

- The lanyard of the name badge is made of recycled PET. We kindly ask you to return the name badge with the lanyard at the registration counter when leaving the conference centre.
- The registration process includes the option to compensate the CO_2 emission caused by your travel to Copenhagen.
- We encourage all participants to bring their own cup/bottle.

Breaks & social events

Refreshment breaks

Free coffee & tea will be served during the morning and afternoon breaks. Catering stations are located in the Sports Hall. For the afternoon break, an additional station is located in front of lecture rooms S1 and S9.

Monday: 11:00–11:30 and 16:00–16:30
Tuesday: 10:00–11:00 (poster session) and 16:00–16:30
Wednesday and Thursday: 09:30–10:30 (poster session) and 16:00–16:30
Friday: 10:30–11:30 (poster session)

Lunch breaks

Monday, 12:45–14:00
Tuesday, 13:00–14:00
Wednesday and Thursday 12:30–13:30

Icebreaker reception

Location: Sports Hall
Date: Monday, 9 September 2019, 19:15–20:30

EMS Festa

The EMS Festa of the EMS Annual Meeting will take place at the Scandic Eremitage hotel, which is located a 10-minute walk from the Lyngby Station.
Date: Thursday, 12 September 2019, 19:30
Price: €60
Participation is by registration only (Deadline was 15 August 2019. Please check for spare tickets at the registration desk).

Closing reception

Location: Sports Hall
Date: Friday, 13 September 2019, 13:50–14:30

Publications

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 under Creative Commons Attribution 4.0 License. This shall give all interested participants the chance to revisit your contribution. Details will be sent to the authors by email after the conference.

Paper publication in *Advances in Science and Research*

Authors of contributions that have been accepted to one of the EMS Annual Meeting 2019 session topics are invited to submit short conference papers to the open access journal Advances in Science and Research – Contributions in Applied Meteorology and Climatology (ASR) (http://www.adv-sci- res.net/volumes.html). Details will be sent to the authors by email after the conference.

Articles of ASR are included in the Conference Proceeding Citation Index (CPCI). The CPCI is part of Web of Science™ Core Collection which helps researchers access the published literature from the most significant conferences, symposia, seminars, colloquia, workshops, and conventions worldwide. This resource offers a complete view of conference proceedings and their impact on global research, providing cited reference search to track emerging ideas and new research beyond what is covered in the journal literature. Two editions cover the sciences and social sciences (see http://thomsonreuters.com/en/products-services/scholarly-scientific-research/scholarly-search-and-discovery/conference-proceedings-citation-index.html).

All conferences (edition to edition) are evaluated individually regarding their inclusion.

Conference committees

Programme and Science Committee

Chair: Sylvain Joffre (EMS Committee on Meetings - CoM)

Miriam Andrioli (WMO)
Jake Badger (DTU Wind Energy)
Eric Bazile (Météo France)
Frank Beyrich (DWD)
Dick Blaauboer (EUMETNET)
Tanja Cegnar (Slovenian Environm. Agency)
Barbara Chimani (EUMETNET)
Christian Csekits (EUMETNET-WGCEF)
Marie Doutriaux Boucher (EUMETSAT)
Zoltan Dunkel (Hungarian Meteor. Society)
Gerald Fleming (Ireland)
Sven-Erik Gryning (Danish Meteor. Society)
Renate Hagedorn (EMS CoM)
Tim Hewson (ECMWF)
Martina Junge (EMS)
Egil Kaas (Copenhagen University)
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Haleh Kootval (EMS CoM)
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Blaz Kurnik (EEA)
Antti Mäkelä (FMI)
Andrea Montani (ARPA)
Ákos Nemeth (Hungarian Meteor. Society)
Kristian Pagh Nielsen (DMI)
Dennis Schulze (MeteoGroup, PRIMET)
Henrik Skov (Aarhus University)
Gert-Jan Steeneveld (EMS CoM)
Jean-Noël Thépaut (EMS CoM)
Tony Wardle (MetOffice)

Programme Stream Moderators

Engagement with Society:
Tanja Cegnar
Gerald Fleming

Operational Systems and Applications :
Andrea Montani
Antti Mäkelä

Understanding Weather & Climate Processes:
Frank Beyrich
Barbara Chimani

EUMETSAT

EUMETSAT METEOROLOGICAL SATELLITE CONFERENCE 2020

The EUMETSAT Meteorological Satellite Conference has been a key annual event for the meteorological community since the organisation's inception in 1986. The 2020 EUMETSAT Meteorological Satellite Conference will be held at the Congress Centre in Würzburg, Germany, and hosted and co-organised by EUMETSAT and DWD (Deutscher Wetterdienst).

Sessions will cover such topics as status of meteorological satellite systems and future evolutions, moving towards MTG and EPS-SG, the use of satellite data in nowcasting and short-range NWP the impact of satellite data in global NWP (joint with ECMWF), climate, oceanography and greenhouse gases, 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.
- The European Meteorological Society (EMS) in cooperation with EUMETSAT offer financial support for the participation of young scientists for the attendance of this conference.

The EMS Young Scientist Travel Awards (YSTA) includes support for travel expenditures of 500€. Details on how to apply including the closing date will become available at https://www.emetsoc.org/awards/award-category/young-scientist-travel-awards/ in early 2020.

The 1st Annoucement will be published on the EUMETSAT website www.eumetsat.int in October 2019.

FOR MORE INFORMATION PLEASE CONTACT:
Conference-organisation@eumetsat.int

WÜRZBURG, GERMANY.
28 SEPTEMBER – 2 OCTOBER 2020

Deutscher Wetterdienst
Wetter und Klima aus einer Hand
DWD

EXCURSIONS

Detailed information on the excursions is available on ems2019.eu

Visit to the Danish Meteorological Institute (DMI)

DMI is the Danish national weather service. As such DMI is responsible for meteorological observations, forecasting and warnings for civilians, aviation, ship traffic, the military, roads, chemical and nuclear releases, and the sea. For the sea, accurate forecasts of storm surges from the North Sea and the Baltic Sea are particularly important for the narrow fjords and belts of Denmark. For ship traffic, the ice service that monitors the ice conditions around Greenland is a particular focus. In recent decades regional climate modelling has become an ever increasing focus, with an emphasis on high-resolution climate modelling for Denmark and Greenland.

Date & time: Tuesday and Wednesday, 17:00–19:00

Excursion to the Ice core archive of the Centre for Ice and Climate – Niels Bohr Institute, University of Copenhagen

A visit of the Ice core archive of the Centre for Ice and Climate - Niels Bohr Institute, University of Copenhagen is planned during the conference week.

Day and time: Thursday, 13:30–approximately 16:15 (including travel time)

Price: €15

Participation: Participation is by registration only (Deadline was 15 August 2019. Please check for spare tickets at the registration desk.)

Max number of participants: 100; first come – first serve basis. The minimum number of participants is 10; the excursion may be cancelled in case of low interest and registration numbers.

Buses leave from: Entrance A of building 101, DTU Lyngby, Anker Engelundsvej 1.

Bicycle tour through Copenhagen

Eigil Kaas from the Niels Bohr Institute, Univ. of Copenhagen, is offering a guided tour through the historical parts of Copenhagen.

You will enjoy various pieces of art and buildings including the Royal Opera, Christiansborg (the parliament) and the Royal Palace. If time permits we will also visit parts of the "experimental city" Christiana. There will furthermore be time to discuss the traffic policy in Copenhagen (as you will learn the amount of bikes on the bike-lanes is substantial).

Date & time: Wednesday, 14:00–17:00

Registration Deadline: 27 August 2019

Costs: The cost is 90 DKK for renting the bike. You can also rent a helmet onsite for 40 DKK (helmet is not required, though).

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):

Atmosphere–MDPI

https://www.mdpi.com/journal/atmosphere

MDPI is a pioneer in scholarly open access publishing who has supported academic communities since 1996 (http://www.mdpi.com/). Published journals include Atmosphere (launched in 2010; Impact Factor 2.046), Geosciences (launched in 2011; indexed by ESCI, Scopus), Water (launched in 2009; Impact Factor 2.524), and Climate (launched in 2013; indexed by ESCI, Scopus).

Atmosphere (ISSN 2073-4433; CODEN: ATMOCZ) is an open access, international, interdisciplinary scholarly journal of scientific research related to the atmosphere, with a strong emphasis on aerosols, air quality, air quality–climate interactions, biosphere/hydrosphere/land–atmosphere interactions, climatology, meteorology, and biometeorology. It has published more than 1000 papers since its inception, and has been indexed by the Science Citation Index Expanded (Web of Science), EI Compendex, Scopus, and other databases (see all at https://www.mdpi.com/journal/atmosphere/indexing). The aim is to publish original research papers, reviews, communications, and short notes. Additionally, Special Issues are devoted to cutting-edge research topics (all Special Issues can be found at https://www.mdpi.com/journal/atmosphere/special_issues). There is no restriction on the length of papers, and manuscripts undergo a rigorous peer review before publication. A first decision is provided to authors approximately 13.3 days after submission; acceptance to publication is undertaken in 4.5 days (median values for papers published in this journal in the first half of 2019).

For more details about Atmosphere, please see http://www.mdpi.com/journal/atmosphere.

Copernicus ECMWF

https://www.copernicus.eu/en

Copernicus is the European Commission's flagship Earth Observation programme that delivers freely accessible operational data and information services for policy-makers, public authorities, businesses, citizens and scientists alike with reliable and up-to-date information related to environmental issues. The European Centre for Medium-Range Weather Forecasts (ECMWF) has been entrusted to operate two key parts of the Copernicus programme and is assisting with a third to bring a consistent standard to the measurement, forecasting and predicting of atmospheric conditions and climate change:

- The Copernicus Atmosphere Monitoring Service provides daily forecasts detailing the makeup composition of the atmosphere from the ground up to the stratosphere.
- The Copernicus Climate Change Service routinely monitors and analyses 22 essential climate variables to build a global picture of our climate, from the past to the future, as well as developing customisable climate indicators in relevant economic sectors.
- The Copernicus Emergency Management Service supports improvements to flood forecasting and understanding of the frequency, variability and consequences of extreme weather.

The European Centre for Medium-Range Weather Forecasts (ECMWF) is an international organisation which specialises in numerical weather prediction and is supported by many European states.

EMS & EMS Members

https://www.emetsoc.org/

The EMS is the association of Meteorological Societies in Europe. The network consists of 37 Member Societies and 30 Associate Members. The EMS is a non-profit-making organisation. The EMS Annual Meetings attract some 600 people each year from all sectors of the field. With a number of Awards outstanding contributions to the science, its applications and communication are honoured; young scientists are supported through travel grants.

The EMS will mark its 20-year anniversary at the event in Copenhagen. The EMS President, Bob Riddaway, will give a presentation (Monday 11:30, Oticon) on:

20 years EMS – how has the landscape changed over the past 20 years?
At a conference in 1993 the national societies of meteorologists in Europe decided to cooperate on matters which would be practical to handle on a European scale. They decided in 1997 to establish a European Meteorological Society (EMS), not as a society with individuals as members, but rather as a society of societies. In 1999 the EMS was formally established. Since then the EMS has grown and flourished, and the meteorological context in which it operates has changed. The development of the EMS and the impact of technology on the science and applications of meteorology over the last 20 years will be described.

IAP Journals
https://www.tandfonline.com/taos

Atmospheric and Oceanic Science Letters publishes original letters related to all aspects of the atmospheric sciences and physical oceanography, and features fast publication. The journal includes Original Article, and Progress and Views. Each article published in AOSL is full Open Access with Taylor & Francis, and indexed by ESCI, Scopus, DOAJ, etc.

PRIMET LTD

http://www.primet.org

Many people across Europe access their daily weather information through private sector companies that are not part of a publicly-funded government meteorological service. They form a vital link between the citizen taxpayer and the public sector organisations that gather global weather data and run large scale numerical models.
PRIMET is a pan European Trade Association for meteorological service providers operating in the private sector. It aims to promote a fair trading environment between the public and private sector in meteorology and its related disciplines.
PRIMET provides the channel of communication between the private sector in Europe and key organisations, including WMO, ECOMET, EUMETSAT, ECMWF as well as the National Meteorological and Hydrological Services.
Membership of PRIMET is open to private sector companies across Europe. Members benefit from a Board of Directors and Secretariat that actively support their business interests by advocating for open access to data, proactively monitoring data service quality and scenarios where unfair competition occurs with commercial services embedded within publicly-funded bodies. For more information see the PRIMET website www.primet.org .
For EMS2019, PRIMET and ECOMET are working together to sponsor a session on the 'Global Weather Enterprise'.

Scintec

http://www.scintec.com

Scintec is a developer and manufacturer of ground-based sensing systems using optical, radio wave and acoustic technology. Continuing scientific and technical innovation, outstanding product design and quality, and a customer-oriented philosophy has made Scintec a global leader in its field. Today, Scintec produces the most advanced and comprehensive line of wind and temperature profilers in SODAR, RADAR and RASS technology. These systems are replacing towers, tethered balloons and radiosondes all over the world. Scintec also offers optical SCINTILLOMETERS for the measurement of boundary layer turbulence and heat flux. Customers include research institutes and universities, the military, major airports, wind farms and weather services worldwide.
Scintec is ISO 9001 certified.

Try a different kind of sightseeing with Go! Running Tours Copenhagen.

Here you get a guided run in English around some of Copenhagen's main sights.

The tours are focused on historical Copenhagen, but include newer architecture, oases and quirky places as well. On the tour you will pass such places as Christiansborg Castle, the Royal Library, the Opera and The Little Mermaid – or you can venture to the Free City of Christiania or go urban and experience the ambience of the more residential areas.

Tours have a distance between 6 and 15 kilometres and last somewhere between 1–2 hours depending on the preferences and capabilities of participants. Customized tours are also available.

Go! book your own private running tour on
https://gorunningtours.com/copenhagen

Delegates of the EMS Annual Meeting 2019 get a 10% discount by entering the discount code EMSCPH10

atmosphere

an Open Access Journal by MDPI

IMPACT FACTOR 2.046

Editor-in-Chief

Prof. Dr. Robert W. Talbot
University of Houston,
Houston, TX 77204, USA

Journal Information

Atmosphere (ISSN 2073-4433; CODEN: ATMOCZ) is an international peer-reviewed open access journal of scientific studies related to the atmosphere published monthly online by MDPI.

Section Information

1. Aerosols
   (Section Editor-in-Chief: Dr. Giovanni Pitari, Università degli Studi dell'Aquila, Italy)
2. Air Quality
   (Section Editor-in-Chief: Dr. Clare Murphy (Clare Paton-Walsh) , University of Wollongong, Australia)
3. Biosphere/Hydrosphere/Land - Atmosphere Interactions
   (Section Editor-in-Chief: Dr. Gunnar W. Schade, Texas A&M University, USA)
4. Climatology and Meteorology
   (Section Editor-in-Chief: Prof. Dr. Anthony R. Lupo, University of Missouri-Columbia, USA)
5. Biometeorology
   (Section Editor-in-Chief: Prof. Dr. Andreas Matzarakis, eutscher Wetterdienst, Germany)

Author Benefits

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Coverage by Leading Indexing Services SCIE-Science Citation Index Expanded (Clarivate Analytics, formerly Thomson Reuters), Ei Compendex, ADS-Astrophysics Data System, Scopus (Elsevier)

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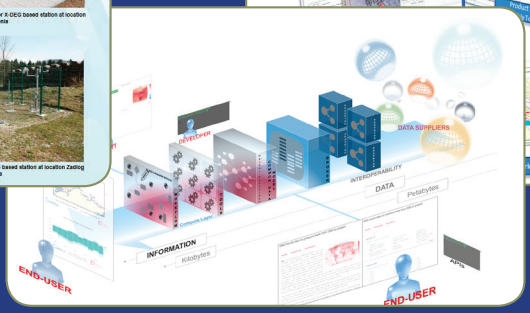
EMS Technology Achievement Award 2020

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 are recognised. The Award is given in the form of a certificate.



Submit a proposal for the TAA 2020:

- Optional deadline for short proposals: **10 December 2019**
- Final Deadline for submission of full proposal: **31 January 2020**

Nominations can be submitted by EMS Member Societies and EMS Associate Members and their respective members or staff.

Submissions and more information at: awardapplication@emetsoc.org

https://www.emetsoc.org/awards/award-category/ems-technology-achievement-award/

KEYNOTE PRESENTATIONS

OTICON HALL, 09:00–09:30

Tuesday

OSA Programme Stream:

Kenneth Holmlund EUMETSAT Chief Scientist

EUMETSAT – Providing accurate, reliable and timely satellite data for weather, climate and environmental applications

Wednesday

ES Programme Stream:

Hans Bruyninckx Executive Director European Environment Agency

Climate change knowledge for informed policy making and implementation

Thursday

UP Programme Stream:

Linus Magnusson ECMWF, Senior Scientist Forecast Department

ECMWF activities for improving polar prediction

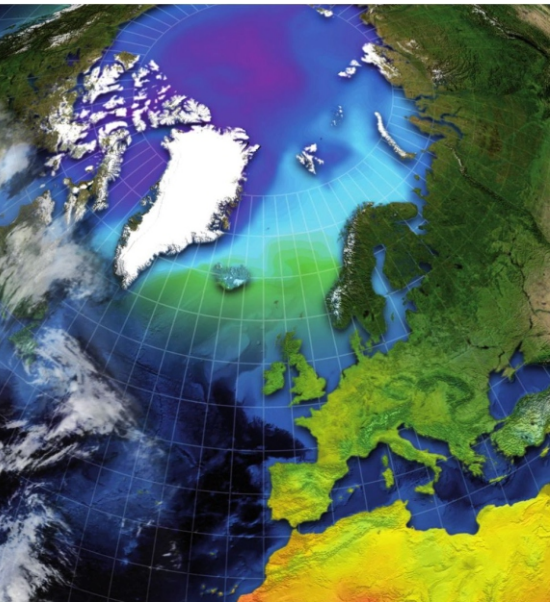
The

Harry Otten Prize

for Innovation in Meteorology

25000 Euros

for the best innovative idea in meteorology



The Harry Otten Prize is a prize of **25000 Euros** that is being 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 can, in a practical way, move society forward.

The next prize will be awarded during the meeting of the European Meteorological Society (EMS) in Barcelona in September 2021.

Ideas for the prize may be submitted from **15 September 2020** until the closing date of **10 March 2021**.

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**

AWARDS SESSION

MONDAY, 9 SEPTEMBER 2019

11:45–12:45 ***AWARD CEREMONIES***

OUTSTANDING POSTER AWARD 2018
EMS YOUNG SCIENTIST AWARD
EMS OUTSTANDING CONTRIBUTION AWARD
EMS TECHNOLOGY ACHIEVEMENT AWARD
EMS SILVER MEDAL
EMS SILVER MEDAL LECTURE:

From Cardboard Charts to Climate Change – Four Decades of Challenges in Communicating Weather Information

Outstanding Poster Award

Peter Kalverla of the University of Wageningen in the Netherlands, has been selected to receive the award for the Poster "A North Sea climatology of anomalous wind events".

His poster describes a new way to define realistic inflow fields based on weather pattern clustering to be used for the computation of energy production with offshore wind turbines instead of idealized wind conditions. The topic is explained with a series of simple illustrations and very short texts while minimizing the use of acronyms. The QR-Code in the right upper corner of the poster leads to the corresponding scientific publication providing more information. The poster was considered a good example of engaging the intended audience.

EMS Young Scientist Award

Sebastian Schemm, Switzerland, receives the Young Scientist Award 2019 for his rigorous work that has fundamentally increased our understanding of the life cycle of extratropical cyclones. He was nominated with the publication: "Which Came First? Fronts, Lows, and the Life of an Extratropical Cyclone", S. Schemm, M. Sprenger, and H. Wernli, Bulletin of the American Meteorological Society (2018), DOI:10.1175/BAMS-D-16-0261.1.

EMS Outstanding Contribution Award

Fritz Neuwirth, President of the Austrian Meteorological Society (ÖGM), receives the EMS Outstanding Contribution Award 2019. He is honoured for his long-term support for the EMS, which started with contributing to the establishment of the EMS and continued with displaying wisdom and enthusiasm as President, member of the Editorial Board and Councillor.

AWARDS SESSION

MONDAY, 9 SEPTEMBER 2019

EMS Technology Achievement Award

The team at the Copernicus Climate Change Service (C3S), implemented by the European Centre for Medium-Range Weather Forecasts on behalf of the European Union, who developed the Climate Data Store (CDS), receives the EMS Technology Achievement Award 2019.

This award recognises that the Copernicus Climate Data Store (CDS) is empowering a wide range of user communities worldwide to work on addressing climate change – the most challenging environmental phenomenon worldwide of modern times – and allowing the development of services to help mitigate its impacts. (graphic © Copernicus Climate Change Services)

EMS Silver Medal – Outstanding contribution to enhancing communication

The EMS Silver Medal is presented annually to a person that has made distinguished contributions to the development of meteorology in Europe.

The EMS Silver Medal 2019 recognises Gerald Fleming's outstanding contribution to the communication of meteorological information through enhancing the public understanding of meteorological services and issues, and strengthening and fostering expertise in broadcast meteorology. Gerald Fleming has played a key role in helping to enhance effective communication between the providers of meteorological services and the broad range of users of those services.

The laudation will be given by **Haleh Kootval**, Consulting specialist in meteorology and service delivery at the World Bank and former Chief of the Public Weather Services (PWS) Programme of WMO.

The Awards Session continues on Tuesday, 10 September 2019, at 09:30.

AWARDS SESSION

TUESDAY, 10 SEPTEMBER 2019

09:30–10:00 AWARD CEREMONIES

EMS YOUNG SCIENTIST TRAVEL AWARDS
EMS TROMP AWARD
TROMP FOUNDATION TRAVEL AWARDS
HARRY OTTEN PRIZE:
The 2019 Awardee is revealed

EMS Young Scientist Travel Awards (YSTAs) are given to support participation of outstanding students and young scientists at EMS-co-sponsored conferences. The award is given as travel expenses support.

Bernat Jiménez Esteve, Switzerland
ENSO influence on the North Atlantic: Interaction between the stratospheric and the tropospheric pathways
Presentation day and time: Wed, 11 Sep 2019, 16:00–16:15, room S1
Session: UP3.2: Mid-latitude atmospheric teleconnection dynamics

Elżbieta Lasota, Poland
Raytracing Through Tropical Cyclone MerantiWith GNSS and GFS/WRF/ERA
Poster P15, Attendance time: Thu, 12 Sep 2019, 09:30–10:30, Sports Hall
Session: OSA1.5: Data assimilation and use of observations in meteorology and oceanography

Magdalena Mittermeier, Germany
Detecting the Dynamics of Heavy Precipitation Vb-Cyclones Under Climate Change Using Neural Networks
Presentation day and time: Fri, 13 Sep 2019, 09:15–09:30, Glass Hall
Session UP3.3: Synoptic climatology

Souleymane Sy, Italy
Sensitivity of Radiosounding Temperature and Humidity Trends to Estimation Algorithms and Subsampling Effects
Poster P49, Attendance time: Fri, 13 Sep 2019, 10:30–11:30, Sports Hall
Session: OSA3.1: data rescue, management, quality and homogenization

AWARDS SESSION

TUESDAY, 10 SEPTEMBER 2019

Solco W. Tromp Foundation

The EMS Tromp Award honours outstanding achievements in biometeorology. The EMS Tromp Award 2019 winner is Diego G. Miralles, Ghent University, Belgium, nominated with the paper: "Land–atmospheric feedbacks during droughts and heatwaves: state of the science and current challenges", D.G. Miralles, P. Gentine, S.I. Seneviratne, and A. J. Teuling., published in April 2019 in Ann.N.Y. Acad.Sci., 1436, 19-35, DOI 10.1111/nyas.19312, 2019.

Diego Miralles will give a presentation on 10 September 2019 in the Session OSA2.2 Agricultural meteorology at **16:30–17:00 in room S1**.

The Tromp foundation travel award to young scientists (TFTAYS) in aimed at supporting young scientists who present papers in the area of biometeorology at EMS Annual Meetings.

Andre Santos Nouri, Portugal
An appraisal into the interdisciplinary integration of thermo-physiological aspects in local urban design and decision making in an era of climate change
Presentation day and time: Thu, 12 Sep 2019, 14:00–14:15, room M1
Session OSA2.4: Atmospheric effects on humans

Moshe Mandelmilch, Israel
Analysis of the Urban Heat Island magnitude in the Desert City of Beer-Sheva, Israel, Using a Modified Local Climate Zone Classification
Presentation day and time: Thu, 12 Sep 2019, 14:45–15:00, room M1
Session OSA2.4: Atmospheric effects on humans

Dragan Milošević, Serbia
Quantification of temporal changes of urban heat island intensity and cooling and heating rates in different local climate zones of mid-sized central European city in Galicia, Spain
Presentation day and time: Thu, 12 Sep 2019, 15:00–15:15, room M1
Session OSA2.4: Atmospheric effects on humans

Pavel Konstantinov, Russian Federation
Boundary layer inversions and human thermal comfort in Arctic cities (based on UHIARC measurements)
Poster P37, Attendance time: Fri, 13 Sep 2019, 10:30–11:30, Sports Hall
Session OSA2.4: Atmospheric effects on humans

Mohammad Taleghani, United Kingdom
The impact of land cover on pedestrians' thermal comfort within a university campus
Poster P38, Attendance time: Fri, 13 Sep 2019, 10:30–11:30, Sports Hall
Session OSA2.4: Atmospheric effects on humans

AWARDS SESSION

TUESDAY, 10 SEPTEMBER 2019

THE HARRY OTTEN PRIZE FOR INNOVATION IN METEOROLOGY

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 the 2019 prize three finalists will present their ideas on **Monday 9 September 2019 at 16:30 in room S1** (see page 38).

The winner will be revealed in the Awards Session on Tuesday at 09:30. More details see page 38.

EMS NEWSLETTER: "EMS-MESSAGE"

The European Meteorological Society's newsletter, the ems-message, is distributed by e-mail and contains information about activities of the EMS Member organisations, upcoming meetings, award announcements and other news from the wider meteorological community.

The EMS Liaison Committee aims to publish editions every six weeks. Submissions are welcome at any time.

Submission of material for the ems-message

Articles are generally a few paragraphs in length. To submit an item for publication in the ems-message, please send the text and at least one accompanying image to the following e-mail address: **publications@emetsoc.org.**

Please include the name of the photographer if including a photograph and ensure that we have permission to publish it.

More details are provided at

https://www.emetsoc.org/publications/ems-message/

Subscription to the ems-message

www.emetsoc.org/newsletter

EMS MEDIA AND OUTREACH AWARDS

WEDNESDAY, 11 SEPTEMBER 2019

14:00–17:00 COMMUNICATION AND MEDIA SESSION

EMS Journalist Award
The EMS Journalist Award highlights outstanding examples of journalism in the field of meteorology or climate science.

Amanda Ruggeri, UK, Senior editor at BBC Future / BBC Global News receives the Journalist Award 2019 for her article "Miami's fight against rising seas", published on 4 April 2017 on BBC.com/future. Amanda Ruggeri addresses the issue of rising seas due to climate change. She presents the impact of climate change in the Miami area, focusing on various aspects of the subject – environmental, social and political. The article is well-documented with scientific facts but also very extensive and detailed in terms of environmental impact. It demonstrates good storytelling and presentation of dilemmas.

EMS Outreach and Communication Award
The EMS Outreach and Communication Award 2019 is presented to the project Communicating Climate Change (Comunicare il cambiamento climatico), coordinated by the journalist and writer Elisa Cozzarini. The project is devoted to raise awareness for the effects and impacts of climate change in the Friuli Venezia Giulia region. It approaches the topic from very different aspects: from the sea to the mountains, from scientists to general public, from theoretical information to conferences and hand-on-activities. The project has a potential for lasting impacts on a broad community.

EMS TV Weather Forecast Award
The EMS TV Weather Forecast Award is presented to individuals to acknowledge best practice in weather presentation. The forecast by Karsten Schwanke, Germany, broadcast in the ARD Weather Show on 16 February 2019, was selected to receive the 2019 Award. The presentation is an excellent example of how to link a weather forecast with explaining meteorological phenomena.

Schwanke decided to use half of the presentation time to explain the role of humidity and cold weather evaporation over a deep snow pack. The tone he uses in conveying weather information is friendly and the explanation, with well-done simple graphics, is understandable to a wide audience. His presentation is animated and very engaging. When appropriate, he smiles at his audience during his presentation. This is an outstanding example of Best Practice.

AWARD LECTURES

Monday

SILVER MEDAL LECTURE

Gerald Fleming, Ireland

From Cardboard Charts to Climate Change – Four Decades of Challenges in Communicating Weather Information.

Oticon Hall, 12:15

Tuesday

TECHNOLOGY ACHIEVEMENT AWARD

Cedric Bergeron, Baudouin Raoult, and **Angel Lopez**, Copernicus Climate Change Services (C3S), ECMWF

C3S Climate Data Store: Enhancing open access to Climate Data and Services

Oticon Hall, 11:00–11:30

YOUNG SCIENTIST AWARD

Sebastian Schemm, Michael Sprenger, and Heini Wernli, Switzerland

When during Their Life Cycle Are Extratropical Cyclones Attended by Fronts? And What is a Front?

Room M1, 16:30–17:00

EMS TROMP AWARD FOR AN ACHIEVEMENT IN BIOMETEOROLOGY

Diego G. Miralles, P. Gentine, S. I. Seneviratne, and A. J. Teuling, Belgium

Land–atmospheric feedbacks during droughts and heatwaves: state of the science and current challenges

Room S1, 16:30–17:00

Wednesday

EMS TV WEATHER FORECAST AWARD

Karsten Schwanke, Germany

Why did the snow not disappear?

Glass Hall, 14:00–14:15

EMS JOURNALIST AWARD

Amanda Ruggeri, UK

Miami's fight against rising seas

Glass Hall, 15:15–15:30

EMS OUTREACH AND COMMUNICATION AWARD

Communicare il cambiamento climatico, Italy

Communicating climate change in the Italian Region Friuli-Venezia-Giuglia

Glass Hall, 16:30–16:45

KEYNOTE PRESENTATIONS

OTICON HALL, 09:00–09:30

Tuesday

OSA Programme Stream:

Kenneth Holmlund EUMETSAT Chief Scientist

EUMETSAT – Providing accurate, reliable and timely satellite data for weather, climate and environmental applications

Wednesday

ES Programme Stream:

Hans Bruyninckx Executive Director European Environment Agency

Climate change knowledge for informed policy making and implementation

Thursday

UP Programme Stream:

Linus Magnusson ECMWF, Senior Scientist Forecast Department

ECMWF activities for improving polar prediction

Side meetings

SIM1
Harry Otten Board meeting (by invitation only)
Monday, 9 September 2019, 09:00–13:00
Tuesday, 10 September 2019, 09:00–10:30 and 14:00–16:00
Room S8

SIM4
Communication workshop (by invitation only)
Tuesday, 10 September 2019, 09:00–18:30
Wednesday, 11 September 2019, 09:00–13:00
Room S2

SIM3
Crowdsourcing Activities
Tuesday, 10 September 2019, 14:00–16:00
Room S12

SIM8
PRIMET AGM (by invitation only)
Tuesday, 10 September 2019, 16:30–18:30
Room S8

SIM5
PRIMET-ECOMET Meeting (by invitation only)
Wednesday, 11 September 2019, 09:00–13:30
Room S12

SIM10
EEA-C3S side meeting (by invitation only)
Wednesday, 11 September 2019, 14:00–18:30
Room S8

SIM11
Communication workshop breakout (by invitation only)
Wednesday, 11 September 2019, 14:00–16:00
Room S4

PSE6
Early Career Scientist Café
Wednesday, 11 September 2019, 14:30–15:30
Room S2

SIM9
NFCS Heavy rainfall (by invitation only)
Wednesday, 11 September 2019, 16:30–18:30
Room S12

SIM7
EUMETNET-CET (by invitation only)
Thursday, 12 September 2019, 09:00–10:30
Room S12

SIM13
Demonstration of the Climate4Impact portal
Thursday, 12 September 2019, 09:00–10:30
Room S8

SIM6
Programme and Science Committee EMS2020 (by invitation only)
Thursday, 12 September 2019, 12:15–14:15
Room S12

SIM12
Scientists4Future
Thursday, 12 September 2019, 16:30–18:30
Room S12

For updates on side meetings consult the website or the ems2019-app.

Early Career Scientist Café
Wednesday, 11 September 2019, 14:30–15:30
Room: S2

We invite all early career scientists to this 1-hour mentoring event.
Experienced actors with diverse backgrounds in all sectors of the weather enterprise will be ready to answer and discuss any questions about job perspectives, career path options, building networks, paper writing, ...

Experts and Mentors
Experts include Renate Hagedorn (DWD), Federico Fierli (EUMETSAT), Dennis Schulze (MeteoGroup) and Sylvain Joffre (EMS).

For updates and more information see
https://meetingorganizer.copernicus.org/EMS2019/session/34563

Registration
The number of participants is restricted, thus registration is required by sending an e-mail to ems2019-mentoring@emetsoc.org with your name and the topics you are particularly interested in.
In case there are still free places, a list for onsite registration will be available at the registration desk.

About the session programme

Conference hours

Oral and poster sessions times

Monday, 9 September 2019

Opening and Awards Session	09:30–12:45
Oral block 3:	14:00–16:00
Oral block 4:	16:30–18:00
Townhall Meeting:	18:15–19:00
Poster Session	19:15–20:30

Tuesday, 10 September 2019

Plenary Keynote and awards session:	09:00–10:00
Poster session:	10:00–11:00
Oral block 1:	11:00–13:00
Oral block 2:	14:00–16:00
Oral block 3 and Poster Session:	16:30–18:30

Wednesday, 11 – Thursday, 12 September 2019

Plenary Keynote:	09:00–09:30
Poster session:	09:30–10:30
Oral block 1:	10:30–12:30
Oral block 2:	13:30–15:30
Oral block 3:	16:00–18:00

Friday, 7 September 2018

Oral block 1:	09:00–10:30
Poster session:	10:30–11:30
Oral block 2:	11:30–13:30
Closing reception	13:50–14:30

▲ Please note that **taking photos or videos of scientific material** shown in any oral or poster presentation is not allowed unless the presenter authorizes this. Presenters are asked to inform the audience whether they welcome photos and their sharing on social media by including an official graphic "photography encouraged" or "photography NOT allowed" on the first (or all) slide(s)/poster.
Mobile phones must be switched off/in mute mode during the oral sessions.

Oral programme

Rooms: The oral programme takes place in the Oticon Hall, the Glass Hall (within the Cafeteria complex) and in four lecture rooms in the Mødecenter: S1, S9, and S4 are located on the ground floor, M1 is located on the first floor. For details see the floor plan at the back of the programme book.
Sequence: In the detailed programme (pages 33 to 123) oral sessions are listed according to the time block for the oral presentations (i.e. 11:00–13:00, 14:00–16:00, ...).
Within each time block sessions are listed in the following order: ES – OSA – UP.

Poster programme

Posters are displayed in the Sports Hall.
In the detailed programme (pages 33 to 123) poster presentations are listed on the day of the respective Author-in-attendance time (i.e. poster session), in the following order: ES – OSA – UP.

The poster programme is structured into two display times and six attendance-times.

Display times
Display time 1: Monday 09:00 – Wednesday 12:30
Display time 2: Wednesday 13:30 – Friday 13:30
Presenters are kindly asked to put up their poster as soon as possible within the according Display time in order to enable the conference participants (and the poster award committee) to view their posters at any time within the Display time.

Poster sessions (Author-in-attendance time) are mostly combined with refreshment breaks.

PS\ Day	Monday 19:15–20:30	Tuesday 10:00–11:00	Tuesday 16:30–18:30	Wednesday 09:30–10:30	Thursday 09:30–10:30	Friday 10:30–11:30
ES	ES1.1, ES1.7			ES1.2, ES1.3	ES2.1	ES1.4, ES1.6
OSA	OSA1.11	OSA1.2	OSA1.10	OSA1.3, OSA1.9, OSA2.1, OSA2.2, OSA2.3, OSA3.7	OSA1.5, OSA1.7, OSA3.5	OSA1.4/ES1.5, OSA1.6, OSA2.4, OSA3.1, OSA3.2, OSA3.3, OSA3.4
UP	UP1.5, UP2.8, UP3.6	UP1.5, UP2.4, UP2.9	UP1.7	UP2.1, UP2.2, UP3.1, UP3.5	UP1.3, UP1.6, UP2.5, UP2.6, UP2.7, UP3.2, UP3.7	UP1.1, UP1.2, UP1.4, UP2.3, UP3.3, UP3.4

Dismantling times
Authors are also asked to take their posters down on Wednesday between 12:30 and 13:00 (Display time 1) and on Friday between 13:30 and 14:00 (Display time 2). Posters that have not been taken down within this dismantling time will be removed.

Poster pitches
For most sessions, time for poster pitches is foreseen during the oral programme. For details, please check the programme of your session. Prepare one or two slides for this purpose. You may also be asked ad hoc by the session chair for a summary presentation should a gap occur in the oral programme.

Outstanding Poster Award
The EMS announces an Outstanding Poster Award to highlight high quality poster presentations at the EMS Annual Meetings. Posters registered for this award will be screened.
The selection of the outstanding poster will be based on the following criteria:
Communication criteria:

Attractive graphical representation, clear and concise text, intuitive structure.

Scientific aspects:

Scientific quality, potential impacts of the results, innovativeness of the approach.

More info at: https://www.emetsoc.org/awards/award-category/outstanding-poster-award/

Award
The author(s) will receive a certificate and one registration fee waiver for the EMS Annual Meeting 2020 in Bratislava where the award will be handed over, and the poster will be highlighted on the EMS website as an example of best practice.
The recipient of the award will be announced shortly after the end of the conference.

Side meetings

Most side meetings take place in the side meeting rooms S8 and S12. Some meetings take place in room S2. All side meeting rooms are located in the Mødecenter on the ground floor.
For the side meeting programme please see page 25.

Session index

Engagement with Society (ES)

Operational Systems and Applications (OSA)

Session		Orals	Posters
OSA1 – Operational systems			
OSA1.2	Numerics and physics-dynamics coupling in weather and climate models	39	61
OSA1.3	Forecasting, nowcasting and warning systems	52	78
OSA1.4/ ES1.5	Delivery and communication of impact forecasting and impact modelling of weather and natural hazard events	112	116
OSA1.5	Data assimilation and use of observations in meteorology and oceanography	68, 71	100
OSA1.6	Probabilistic and ensemble forecasting from short to seasonal time scales	110, 113	116
OSA1.7	Forecast verification	74	101
OSA1.9	Forecasters' session	57	79
OSA1.10	Challenges in High Resolution Short Range NWP at European level including forecaster-developer cooperation	52	64
OSA1.11	The Weather Research and Forecasting Model (WRF): development, research and applications	35	43
OSA2 – Applications of meteorology			
OSA2.1	Reducing weather risks to transport: air, sea and land	48	80
OSA2.2	Agricultural meteorology	57	80
OSA2.3	Energy meteorology	58, 68	81
OSA2.4	Atmospheric effects on humans	92, 96	116
OSA3 – Applications of climate research			
OSA3.1	Climate monitoring: data rescue, management, quality and homogenization	97	117
OSA3.2	Spatial climatology	92	118
OSA3.3	Climate Applications of satellite data	88	118
OSA3.4	The Copernicus Climate Change Service	88	119
OSA3.5	Challenges in deriving actionable information from climate model ensembles	93	101
OSA3.7	MEDiterranean Services Chain based On climate PrEdictions (MEDSCOPE)	49	82

Understanding Weather & Climate Processes (UP)

Session		Orals	Posters
UP1 – Atmospheric processes and severe weather			
UP1.1	Atmospheric dynamics and predictability	89, 94	120
UP1.2	Atmospheric boundary-layer processes and turbulence	98, 110, 113	121
UP1.3	Understanding and modelling of atmospheric hazards and severe weather phenomena	69, 72	102
UP1.4	Towards a better understanding of wind gusts: observations, processes, predictions and verification	94	122
UP1.5	Atmospheric measurements: Instruments, experiments, networks and long-term programs using in-situ and remote sensing techniques	36, 40, 50	43, 61
UP1.6	High-resolution precipitation monitoring and statistical analysis for hydrological and climate-related applications	75, 89	104
UP1.7	Arctic and Antarctic Meteorology	50, 53	64
UP2 – Interactions within the Earth System			
UP2.1	Ocean – atmosphere interactions and coastal processes	59	83
UP2.2	Interactions of air pollutants, greenhouse gases, weather and climate from local/urban to global scales	54, 59	83
UP2.3	Cloud-aerosol-radiation interactions	98	122
UP2.4	The cryosphere and cold region processes in the global climate system	36	62
UP2.5	The interconnection between the sun, space weather and the atmosphere	90	104
UP2.6	Exploring the interfaces between meteorology and hydrology	70, 72	105
UP2.7	European Regional Hydroclimate Projects helping understand water cycle processes and drivers	95	105
UP2.8	Phenology: observations, monitoring and modelling across a range of scales	40	44
UP2.9	Short-lived climate forcers and climate in the Arctic	41	63
UP3 – Climate modelling, analyses and predictions			
UP3.1	Climate change detection, assessment of trends, variability and extremes	54, 60	84
UP3.2	Mid-latitude atmospheric teleconnection dynamics	73, 75	106
UP3.3	Synoptic climatology	111, 114	122
UP3.4	Paleoclimatology and historical climatology	99	123
UP3.5	Climate modelling	51, 55	85
UP3.6	Global and regional reanalyses	37	44
UP3.7	Analysis and predictions of tropical cyclones from subseasonal to decadal time scales	77	106

Monday, 09:30–11:00

09:30–10:00: Opening ceremony
Lecture room: Oticon Hall

Opening by the EMS President	Bob Riddaway
Welcome address by the DaMS President	Sven-Erik Gryning
Welcome address by the DMI Director	Marianne Thyrring
Welcome address by the DTU Wind Energy Dep. Director	Peter Hauge Madsen

10:00–11:00 Strategic Lectures
Lecture room: Oticon Hall

10:00–10:30 | Johanna Ekman
Finnish Meteorological Institute
Increased meteorological cooperation - what it means for the Arctic

10:30–11:00 | Thomas Jung
Alfred Wegener Institute Helmholtz Center for Polar and Marine Research, WWRP Polar Prediction Project, Year of Polar Prediction
Advances in Polar Prediction

Monday, 11:30–12:45

11:30–11:45: 20 years EMS
Lecture room: Oticon Hall

Bob Riddaway
20 years EMS – how has the landscape changed over the past 20 years?

11:45–12:45: Awards session (Part I)

Outstanding Poster Award 2018
EMS Young Scientist Award
EMS Outstanding Contribution Award
EMS Technology Achievement Award
EMS Silver Medal

Details see page 17.

Monday, 14:00–16:00

ES1.1 The Global Weather Enterprise

Lecture room: Oticon Hall
Conveners: Andrew Eccleston; Willie McCairns; Gerald Fleming

14:00–14:15: Introduction

14:15–14:45 | Dimitar Ivanov
WMO Congress 2019: Public-Private Engagement in meteorological products and services. (solicited)

14:45–15:15 | Vladimir Tsirkunov
How Public-Private Engagement in meteorology can support World Bank priorities. (solicited)

15:15–15:30 | Karl G. Gutbrod
Evolution of private weather services in different countries: frameworks and economic results

15:30–15:45 | Jim Block
UN Project Climate Smart - A Global Agricultural Weather Program

15:45–16:00 | Adriaan Perrels
Policy scenarios for enhancing uptake of climate services - alternative options for combining public and private

END OF ORAL PROGRAMME ES1.1

ES1.7 Co-development of weather and climate services in developing and emerging countries

Lecture room: S4
Convener: Stefanie Gubler
Co-conveners: Gerard van der Schrier; Jane Strachan; Matti Eerikäinen

14:00–14:15 | John Harding
Harnessing knowledge and expertise from meteorological institutions - current practices on early warning system development with least developed countries.

14:15–14:30 | Nicola Golding
The Rules of Engagement: Refining approaches to user engagement for climate services

14:30–14:45 | Haleh Kootval
Strengthening hydromet services in developing countries: experience of the World Bank

14:45–15:00 | Josephine Wilson
WISER HIGHWAY, co-development on a regional scale - lessons and challenges

15:00–15:15 | Quentin Lejeune
ISIpedia, the open-access climate-impacts encyclopedia: An example of co-development of climate services by impact modellers and stakeholders

15:15–15:30 | Nick van de Giesen
Progress, status, and outlook of the Trans-African Hydro-Meteorological Observatory (TAHMO)

15:30–15:45 | Rasmus Benestad
Experience with supporting climate services in India, Bangladesh and Mozambique

15:45–16:00 | Vieri Tarchiani
Competencies based innovative learning solutions for co-development of Climate Services in West Africa

ORAL PROGRAMME ES1.7 CONTINUES ON MONDAY, 16:30

OSA1.11 The Weather Research and Forecasting Model (WRF): development, research and applications

Lecture room: S9
Convener: Gert-Jan Steeneveld
Co-conveners: Hugo Hartmann; Peter C. Kalverla

14:00–14:15: Introduction to posters

14:15–14:30 | Alfredo Peña
An evaluation of WRF-LES using measurements from a 250-m tower

14:30–14:45 | Tija Sile
The causes of spread in a WRF multi-physics ensemble for wind energy applications

14:45–15:00 | Damyan Barantiev
Numerical simulations of wind field evolution over complex terrene against sodar measurements.

15:00–15:15 | Paulina Aniśkiewicz
The influence of Weather Research and Forecasting Model (WRF) parametrization for the accuracy of the model results in the Porsanger fjord

15:15–15:30 | Theodoros Giannaros
IRIS - Rapid response fire spread forecasting system: Development and application to Greece

15:30–15:45 | Elissavet Galanaki
Calibration and evaluation of WRF-Hydro performance at two drainage basins in the region of Attica, Greece

15:45–16:00 | Péter Kardos
Fine tuning of WRF data assimilation frame with software container based simulation platform

END OF ORAL PROGRAMME OSA1.11

UP1.5 Atmospheric measurements: Instruments, experiments, networks and long-term programs using in-situ and remote sensing techniques

Lecture room: M1
Convener: Frank Beyrich
Co-conveners: Fred C. Bosveld; Jens Bange; Domenico Cimini

Remote sensing methods

14:00–14:30 | Torben Mikkelsen
Overview on the use of Doppler lidars for boundary layer wind and turbulence measurements at DTU Wind Energy 2009 - 2019. (solicited)

14:30–14:45 | Katrin Frieda Gehrke
Analysis of different Doppler-Lidar scanning strategies for deriving the mean wind vector in the convective boundary layer on the basis of large-eddy simulations

14:45–15:00 | Raisa Lehtinen
Evaluation of compact water vapor DIAL technology in various climates

15:00–15:15 | Werner Thomas
Volcanic Ash, Sahara dust, and Biomass Burning plumes over Central Europe: Results from a combined Ceilometer/Lidar network

15:15–15:30 | Daniel Klaus
From cloud observations to a fully automatic METAR by combining ground-based and space-borne remote sensing data

15:30–15:45 | Damyan Barantiev
Nocturnal boundary-layer characteristic at a coastal site using long-term sodar data

15:45–16:00 | Chunlin Wang
Fusion of satellite data and ground observed PM2.5 in Pearl River Delta region with Linear Mixed Effect and Bayesian Maximum Entropy method

ORAL PROGRAMME UP1.5 CONTINUES ON MONDAY, 16:30

UP2.4 The cryosphere and cold region processes in the global climate system

Lecture room: Glass Hall
Conveners: Renato R. Colucci; Andrea Fischer; Marco Tedesco
Co-conveners: Costanza Del Gobbo; Kay Helfricht; Kyle Mattingly

14:00–14:15: Poster pitches

14:15–14:30 | Ilona Välisuo
Arctic sea ice conditions in seasonal re-forecasts with the CNRM-CM6-1 model

14:30–14:45 | Kyle Mattingly
Atmospheric rivers drive summer Greenland Ice Sheet melt through enhanced radiative and turbulent energy fluxes

14:45–15:00 | Marco Tedesco
Spatio-temporal variability of surface meltwater over Greenland and Antarctica ice sheets between 1979 and 2018 at enhanced spatial resolution (3.125 km)

15:00–15:15 | Ketil Isaksen
Operational permafrost monitoring in Norway through cryo.met.no

15:15–15:30 | Kerttu Kouki
Intercomparison of Snow Melt Timing Estimates from Optical and Microwave Satellite Instruments over the Northern Hemisphere for the Period 1982-2015

15:30–15:45 | Eduard Osipov
Moisture sources and synoptic conditions of summer precipitation in the glacial zone of the East Sayan Range

15:45–16:00 | Pavel Toropov
Deglaciation of the Great Caucasus forced by the climate changes

END OF ORAL PROGRAMME UP2.4

UP3.6 Global and regional reanalyses

Lecture room: S1
Convener: Frank Kaspar
Co-conveners: Eric Bazile; Dick Dee

Development and production of reanalysis datasets

14:00–14:15 | Semjon Schimanke
Copernicus regional reanalysis for Europe

14:15–14:30 | Harald Schyberg
The Arctic Regional Reanalysis of the Copernicus Climate Change Service

14:30–14:45 | Mariusz Pagowski
Development of the Joint NOAA-NASA Aerosol Reanalysis. Progress and Plans

14:45–15:00 | Clarissa Figura
Towards a Convective Scale Reanalysis for a river catchment with TerrSysMP

Evaluation of reanalysis datasets

15:00–15:15 | Simon Scherrer
Can modern reanalyses be used to monitor temperature in the Alps in recent decades?

15:15–15:30 | Jan Keller
Representation of climate variability and extremes in reanalyses - an intercomparison

15:30–15:45 | Riccardo Hénin
Assessing the Use of Satellite-Based Estimates and High-Resolution Precipitation Datasets for the Study of Extreme Precipitation Events over the Iberian Peninsula

15:45–16:00 | Stéphane Van Hyfte
Implementation and evaluation of a new high resolution meteorological reanalysis system of surface parameters over France

16:00-16:10 | Poster pitches

END OF ORAL PROGRAMME UP3.6

Monday, 16:30–18:00

PSE2 Harry Otten Prize for Innovation in Meteorology: Finalists' Session

Lecture room: S1
Convener: Leo Kroon, Tanja Cegnar
Co-convener: Andrea Oestreich

The Harry Otten Foundation selected three finalists who will give presentations explaining their ideas in this session. The prize winner will be announced in the Awards Session on Tuesday.

16:30–16:40: Introduction

16:40–17:00 | Yann Dufournet
EnLight – New way to communicate HD weather-data about the incoming weather hazards to citizens

17:00–17:05: Discussion

17:05–17:25 | Malcolm Kitchen
A new method of measuring atmospheric refractivity

17:25–17:30: Discussion

17:30–17:50 | Paul Petersik
VineForecast - An interactive tool to generate individual predictions of vine diseases and phenology

17:50–17:55: Discussion

17:55–18:00: Conclusion

ES1.7 Co-development of weather and climate services in developing and emerging countries

Lecture room: S4
Convener: Stefanie Gubler

16:30–16:45 | Harri Pietarila
International development and twinning project activities of the Finnish Meteorological Institute

16:45–17:00 | Jorge Tamayo
Recent activities in the Ibero-American meteorological cooperation of AEMET

17:00–17:15 | Reidun Gangstø Skaland
Capacity building of weather and climate services in Myanmar (2012-2019) - experiences and lessons learnt

17:15–17:30 | Lydia Dumenil Gates
Bridging the gap - how the EPICC project brings climate science to practice

17:30–17:40: Poster pitches

17:40–18:00: Discussion

END OF ORAL PROGRAMME ES1.7

OSA1.2 Numerics and physics-dynamics coupling in weather and climate models

Lecture room: S9
Convener: Daniel Reinert
Co-convener: Guy de Morsier

16:30–17:00 | Christian Kühnlein
FVM: a nonhydrostatic finite-volume dynamical core for the IFS (solicited)

17:00–17:15 | Thomas Burgot
Viability and performance of grid-point solvers for solving the implicit problem of the dynamical core AROME

17:15–17:30
Abstract withdrawn

17:30–17:45 | Ji-Young Han
Parameterization of Moist Convection in the Korean Integrated Model (KIM)

17:45–18:00 | Michael Langguth
Implementing the HYbrid MAss flux Convection Scheme in ICON - Adaptions of the dynamical core and idealized tests

Poster pitches: 18:00-18:15

END OF ORAL PROGRAMME OSA1.2

UP1.5 Atmospheric measurements: Instruments, experiments, networks and long-term programs using in-situ and remote sensing techniques

Lecture room: M1
Convener: Frank Beyrich
Co-conveners: Fred C. Bosveld; Jens Bange; Domenico Cimini

Experiments and networks

16:30–17:00 | Michael Tjernström
Central Arctic Ocean atmospheric observations: on the need to break ice (solicited)

17:00–17:15 | Sarah Wiesner
FESSTVaL: Field Experiment on sub-mesoscale spatio-temporal variability in Lindenberg - the campaign is at the ready

17:15–17:30 | Minsoo Kang
Effect of network density on horizontal distribution of meteorological variables in the Seoul Metropolitan Area

17:30–17:45 | Terhikki Manninen
Diurnal surface albedo parametrization

17:45–18:00: Poster pitches

ORAL PROGRAMME UP1.5 CONTINUES ON TUESDAY, 11:00

UP2.8 Phenology: observations, monitoring and modelling across a range of scales

Lecture room: Oticon Hall
Convener: Christina Koppe
Co-convener: Mathias Herbst

16:30–16:45: Poster pitches

16:45–17:00 | Christian Huettich
PhenoCube - Unleashing the Potential of analyses-ready Satellite Data and Archives for phenological Land Monitoring

17:00–17:15 | Gunta Kalvane
Crop phenology and drought stress in changing climate

17:15–17:30 | Maja Telisman Prtenjak
Climate change impacts on the viticulture in Croatia; viticultural zoning and future potential

17:30–17:45 | Vincent Heusinkveld
Towards Generalizing the Wind Machine Frost Protection Method

END OF ORAL PROGRAMME UP2.8

UP2.9 Short lived climate forcers and climate in the Arctic

Lecture room: Glass Hall
Convener: Henrik Skov
Co-convener: Hans-Christen Hansson

16:30-17:00 | Tinja Olenius
Aerosol nucleation and its impacts on particle distributions and cloud condensation nuclei: the current best understanding and the most critical knowledge gaps (solicited)

17:00–17:15 | Daniel Thomas
Optical properties of different aerosol types in the High Arctic using k-means clustering

17:15–17:30 | Ulas Im
Black Carbon Radiative Forcing over the Arctic

17:30–17:45 | Dominic Heslin-Rees
From a polar to a marine environment: has the retreat in Arctic sea-ice led to a shift in aerosol optical properties?

17:45–18:00 | Srinath Krishnan
Isolating the atmospheric and oceanic roles in linking European aerosol emissions and the remote Arctic response

END OF ORAL PROGRAMME UP2.9

Monday, 18:15–19:00

PSE3 Townhall Meeting: Panel discussion on "Moving forward from communication to action"

Lecture room: Oticon Hall

Panellists

Jenni Evans	President of the American Meteorological Society (AMS)
Petteri Taalas	Secretary-General of the World Meteorological Organization (WMO)
Pekka Tiainen	Special Expert International Affairs at the Department for Rescue Services (Ministry for Internal Affairs, Finland)

Moderator

Marianne Thyrring	Director Danish Meteorological Institute

At this Townhall Meeting the following questions will be discussed:

- What are the issues in moving from communication to acting?
- How do we get the general public and those in authority/responsibility positions to understand that warnings of severe weather and related events require them to act?
- And how to help service providers to move from providing hazard information to providing impact information

Posters Monday, 19:15–20:30

ES1.1 The Global Weather Enterprise

Conveners: Andrew Eccleston, Willie McCairns, Gerald Fleming

P1 | Manuel Palomares
Historical development of international meteorological cooperation in the background of the GWE

END OF POSTER PROGRAMME ES1.1

ES1.7 Co-development of weather and climate services in developing and emerging countries

Convener: Stefanie Gubler
Co-conveners: Gerard van der Schrier, Jane Strachan, Matti Eerikäinen
Poster pitches: Mon, 17:30, room S4

P8 | Ge Verver
ICA&D: Climate services for developing countries

P9 | Mike Hobbins
Drought in Africa: Understanding and Exploiting the Demand Perspective Using A New Evaporative Demand Reanalysis

P10 | Jane Strachan
Co-development of national climate services - learning from working together

P11 | Andrea Rossa
Implementing climate services through a twinning approach – The Climandes example

END OF POSTER PROGRAMME ES1.7

OSA1.11 The Weather Research and Forecasting Model (WRF): development, research and applications

Convener: Gert-Jan Steeneveld
Co-conveners: Hugo Hartmann, Peter C. Kalverla
Poster pitches: Mon, 14:00, room S9

P42 | Paulina Aniśkiewicz
Arctic weather conditions in winter season: nowadays and 36-years ago.

P43 | Damyan Barantiev
WRF simulations against sodar measurements of extreme winds and local breeze circulations serial events

P44 | Young-Hee Lee
Evaluation of the Boundary-layer structure from the Weather Research and Forecasting model against observation at Urban site on clear days during summer

P45 | Manel Bravo
Towards a better initialization of surface and soil properties in the WRF model: the use of HRLDAS and high-resolution satellite data

P46 | Linda Schneider
Using COSMO-D2 data for high-resolution WRF offshore wind farm simulations

END OF POSTER PROGRAMME OSA1.11

UP1.5 Atmospheric measurements: Instruments, experiments, networks and long-term programs using in-situ and remote sensing techniques

Convener: Frank Beyrich
Co-conveners: Fred C. Bosveld; Jens Bange; Domenico Cimini
Poster pitches: Mon, 17:45, room M1

Poster session Part I: Remote sensing methods

P93 | Matthias Zeeman
Urban boundary layer structure of Stuttgart observed by ground-based remote sensing

P94 | Damyan Barantiev
Statistical analysis of ceilometer overlap function

P95 | Praveen Pandey
Cloud properties and associated impact on solar irradiance by means of satellite and ground-based remote sensing

P96 | Yunyoung Song
Effects of cloud detection to the innovation of brightness temperature measured by ground-based microwave radiometer

P97 | Bo Li
Retrieval of the Cloud Phase Product from the Polar Orbit Meteorological Satellite in China

P98 | Abu Taib Mohammed Shahjahan
Study of the Influence of Differential Riparian Shading of Urban Wetlands on Surface Cooling Island using Remote Sensing and Ground-Based Meteorological Data

P99 | Jiahua Zhang
Developing a Dust Storm Detection Method Combining Support Vector Machine and Satellite Data in Typical Dust Regions of Asia

P100 | Miao Zhang
Estimating the Intensity of Tropical Cyclone over the Western North Pacific Using FY3/ MWTS(II) Data

POSTER PROGRAMME OF UP1.5 CONTINUES ON TUESDAY, 10:00

UP2.8 Phenology: observations, monitoring and modelling across a range of scales

Convener: Christina Koppe
Co-convener: Mathias Herbst
Poster pitches: Mon, 16:30, Oticon Hall

P205 | Goran Basovski
Use of satellite data to determine the begining and end of vegetation in Republic of North Macedonia

P206 | Carlos Román-Cascón
Soil Moisture and Surface Flux relations over different Land Covers. Analysis from in situ data, satellite data and models

P207 | Sophie Reinermann
Extreme Hot and Dry Summers in Germany - Analysis of Long-term Earth Observation Time Series of Vegetation Condition

P208 | Matthias Zeeman
Vegetation structure and productivity of three temperate upland grasslands

P209 | Daria Bilińska
The comparison between ERA5 and WRF data used to determine the start of birch pollen season in Poland

END OF POSTER PROGRAMME UP2.8

UP3.6 Global and regional reanalyses

Convener: Frank Kaspar
Co-conveners: Eric Bazile; Dick Dee
Poster pitches: Mon, 16:00, room S1

P166 | Andrea Montani
Intercomparison of three regional reanalysis datasets over Italy based on ERA5

P167 | Taru Olsson
Case studies of sea-effect snowfall on the Finnish coast with ERA5 data

P168 | Angelika Palarz
Temporal and spatial variability of elevated inversions over Europe based on ERA-Interim reanalysis

P169 | Vladimir Platonov
Evaluation of regional hydrometeorological reanalysis for Russian Arctic: methodology and verification results

P170 | Xiaohua Yang
Added values with Copernicus arctic regional reanalysis

P171 | Frank Kaspar
Development, evaluation and applications of regional reanalyses for Europe and Germany based on DWD's NWP models: Status and outlook

P172 | Eric Bazile
Comparison between regional re-analysis and NWP forecast for snow

END OF POSTER PROGRAMME UP3.6

EUROPHOTOMETEO 2020

Do you want to be the next winner of
the EMS photo competition?

Keep an eye open for the announcement and the submission at

https://www.emetsoc.org/awards/award-category/europhotometeo/

#welovemetphotos
#epm2020

Timeline

November 2019: Call for submissions

15 January 2020: Final submission day

early March 2020: Public photo gallery

early April 2020: Winner photos announced

'The independence day' by Marko Korosec was voted ninth place in the EPM2014 competition.

Tuesday, 09:00–10:00

09:00–09:30

Keynote Lecture on Operational Systems and Applications (OSA)

EUMETSAT - Providing accurate, reliable and timely satellite data for weather, climate and environmental applications

By Kenneth Holmlund, EUMETSAT Chief Scientist

09:30–10:00

Awards session (Part II)

EMS Young Scientist Travel Awards

EMS Tromp Award

Tromp Foundation Travel Awards to Young Scientists

Harry Otten Prize for Innovation in Meteorology

Details see page 19.

The following refreshment break is sponsored by the Harry Otten Foundation

Tuesday, 10:00–11:00

Poster session & refreshment break:
For details of the poster programme see page 61–65

Tuesday, 11:00–13:00

ES1.2 Creating value through Open Data

Lecture room: Oticon Hall
Convener: Renate Hagedorn
Co-conveners: Eduard Rosert; Roope Tervo

11:00–11:30 | Angel Lopez
C3S Climate Data Store: Enhancing open access to Climate Data and Services (EMS Technology Achievement Award 2019) (solicited)

11:30–11:45 | Kristine Gjesdal
Strengthening weather services with open weather data and public digital goods

11:45–12:00 | Helga Therese Tilley Tajet
MET Norway's new User Interface for observational data

12:00–12:15 | Richard Figura
FAIR - User-friendly provisioning of Climate- and Weather Data

12:15–12:45 | Lee Chapman
Observations, monitoring, modelling and artificial intelligence? What does the future hold?

12:45–13:00: Discussion and Introduction to Posters

END OF ORAL PROGRAMME ES1.2

OSA2.1 Reducing weather risks to transport: air, sea and land

Lecture room: S9
Convener: Fraser Ralston
Co-conveners: Ludovic Bouilloud; Christine Le Bot

11:00–11:15 | Ludovic Bouilloud
Ensemble forecast for road weather in France

11:15–11:30 | Katrin Nissen
How does weather affect the use of public transport in Berlin?

11:30–11:45 | Eirik Mikal Samuelsen
Weather situation in observed ship-icing events

11:45–12:00 | Isabel Metzinger
An ensemble based decision support tool for air traffic control at Frankfurt/M. Airport

12:00–12:15 | Peter Hoffmann
Assessment of climate bridges in the world air traffic network using centrality measures

12:15–12:45 | Paul Williams
How will climate change affect aviation? (solicited)

12:45–13:00: Poster Presentation

END OF ORAL PROGRAMME OSA2.1

OSA3.7 MEDiterranean Services Chain based On climate PrEdictions (MEDSCOPE)

Lecture room: S4
Convener: Silvio Gualdi
Co-conveners: Lauriane Batté; Javier Garcia-Serrano

Sources of predictability

11:00–11:15 | Ignazio Giuntoli
Sources of seasonal predictability in the Mediterranean

11:15–11:30 | Marianna Benassi
ENSO teleconnection over the Euro-Mediterranean region and the role of PDO modulation: an update

11:30–11:45 | Esteban Rodríguez-Guisado
Further developments on seasonal statistical forecasting over the Mediterranean

11:45–12:00 | Lorenzo Sangelantoni
A regional-scale seasonal climate prediction system based on a CFSv2-RegCM dynamical downscaling

Postprocessing tools

12:00–12:15 | Carmen Alvarez-Castro
Statistical tools for Mediterranean Seasonal Forecast

12:15–12:30 | Paola Marson
Adaptation of the ADAMONT statistical downscaling method to seasonal prediction systems

Climate services

12:30–12:45 | Alessandro Dell'Aquila
Development of climate services from the user perspective: the MED-GOLD experience

12:45–13:00 | Jost von Hardenberg
An application of seasonal prediction for estimating cryospheric resources in the Alps

END OF ORAL PROGRAMME OSA3.7

UP1.5 Atmospheric measurements: Instruments, experiments, networks and long-term programs using in-situ and remote sensing techniques

Lecture room: M1
Convener: Frank Beyrich
Co-conveners: Fred C. Bosveld; Jens Bange; Domenico Cimini

Sensor development and micrometeorological measurements

11:00–11:15 | Antti Laitinen
Vertical profiling of the atmosphere using drone-borne dropsonde

11:15–11:30 | Marco Rosoldi
Intercomparison of Vaisala RS92 and RS41 radiosondes under controlled laboratory conditions

11:30–11:45 | Moritz Mauz
High frequency chilled mirror hygrometer for atmospheric measurements with fixed wing UA

11:45–12:00 | Ivan Bogoev
Flow Distortion Effects by Open-path Gas Analyzers for Eddy-covariance Applications

12:00–12:15 | Keith Wilson
Calibration method and field testing of the Kipp & Zonen XLAS MkII eXtra Large Aperture Scintillometer

12:15–12:30 | Bart Schilperoort
Stability and decoupling in a Douglas fir forest

12:30–12:45 | Oluwakemi Dare-Idowu
Long-term analysis of the Energy Balance Closure and flux partitioning over agricultural systems in Southwestern France

12:45–13:00 | Kjell zum Berge
In-situ wind measurements in complex terrain using an UAS

END OF ORAL PROGRAMME UP1.5

UP1.7 Arctic and Antarctic Meteorology

Lecture room: Glass Hall
Conveners: Lise Lotte Sørensen; Timo Vihma
Co-conveners: Sven-Erik Gryning; Ruth Mottram

Large-scale circulation

11:00–11:15 | Erica Madonna
Warming and cooling in the Arctic: what can we learn from the past 100 years

11:15–11:30 | Paolo Ruggieri
Atlantic weather regimes and poleward heat transport by transient eddies in polar regions

11:30–11:45 | Timo Vihma
Arctic and mid-latitude weather extremes during the YOPP Special Observation Period in winter 2018

11:45–12:00 | Lukas Papritz
Dynamic and thermodynamic drivers of Arctic extreme near surface temperature anomalies

12:00–12:15 | Sonja Murto
Dynamic drivers of Arctic warm events

12:15–12:30 | Jonathan Day
Increased Arctic influence on the mid-latitude flow during Scandinavian Blocking episode

Surface energy budget, boundary-layer and mesoscale processes

12:30–12:45 | Dirk van As
Monitoring melt, meteorology and more along the Greenland ice sheet margin: the Kangerlussuaq region

12:45–13:00 | Oskar Landgren
Greenland surface melt in a HARMONIE-Climate mini-ensemble

ORAL PROGRAMME UP1.7 CONTINUES ON TUESDAY, 14:00

UP3.5 Climate modelling

Lecture room: S1
Convener: Stefan Sobolowski
Co-conveners: Bodo Ahrens; Barbara Chimani

11:00–11:15 | Tímea Kalmár
Sensitivity of the regional climate model RegCM4.7 to land-surface and planetary boundary layer parameterisations over the Carpathian region

11:15–11:30 | Hong Chen
Evaluation the performance of IAP4.1 climate model in simulating the snow conditions over the Tibetan Plateau

11:30–11:45 | Petter Lind
20-year simulations over the Nordic region with a convection-permitting climate model - benefits and added value of kilometer-scale resolution

11:45–12:00 | Cécile Caillaud
Past climate variability study of Heavy Precipitation Events in the north-western Mediterranean using the Convection-Permitting Regional Climate Model CNRM-AROME41

12:00–12:15 | Jonas Olsson
Summertime sub-daily precipitation extremes in a EURO-CORDEX 12-km ensemble: evaluation and future projections

12:15–12:30 | Fuxing Wang
High resolution modeling of urban climate on the example of Stockholm

12:30–12:45 | Dmitry Sein
AWI climate models: From global to regional scales

12:45–13:00 | Katharina Bülow
Future snow conditions in Europe calculated by the EURO-CORDEX regional climate model ensemble

ORAL PROGRAMME UP3.5 CONTINUES ON TUESDAY, 14:00

Tuesday, 14:00–16:00

OSA1.3 Forecasting, nowcasting and warning systems

Lecture room: S9
Conveners: Timothy Hewson; Yong Wang
Co-conveners: Bernhard Reichert; Fulvio Stel

14:00–14:15 | Ken Mylne
IMPROVER - the new probabilistic post-processing system at the Met Office

14:15–14:30 | Paul James
NowCastMIX: Automatic integrated warnings for severe weather on nowcasting timescales at Deutscher Wetterdienst

14:30–14:45 | Estíbaliz Gascón
Exploring the benefits of COSMO limited area model and the new ECMWF "ecPoint" precipitation post-processing

14:45–15:00 | Jacques Marcoux
Modernization of the Forecast Production System at CMC

15:00–15:15 | Frauke Theuer
Very short-term probabilistic wind speed and power forecasts based on lidar measurements at the offshore wind farm Global Tech I

15:15–15:30 | Elín Björk Jónasdóttir
Development of an automated first guess warning system based on the experience of an impact-based warning system at the Icelandic Meteorological Office.

15:30–15:45 | Lesley De Cruz
Project IMA: Seamless short-term ensemble prediction at the RMIB

15:45–16:00 | Vincenzo Mazzarella
Development of a Rapid Update Cycle system using radar and conventional data for short-term forecasting. Preliminary results on a severe weather event

Poster pitches

END OF ORAL PROGRAMME OSA1.3

OSA1.10 Challenges in High Resolution Short Range NWP at European level including forecaster-developer cooperation

Lecture room: M1
Convener: Balázs Szintai
Co-conveners: Chiara Marsigli, Emily Gleeson

14:00–14:15 | Dick Blaauboer
EUMETNET new programme phase: Forecasting Capability Area

14:15–14:30 | Stéphane Vannitsem
Post-processing and blending: Statistical tools for the provision of reliable seamless forecasts

14:30–14:45 | Alfons Callado
EUMETNET SRNWP-EPS: phase 2019-2023

14:45–15:00 | David Walters
Research to Operations: pulling meteorological research though into operational applications

15:00–15:15 | Elena Saltikoff
Quality of radar data in Europe and its consequences for NWP

15:15–15:30 | Bent Sass
Challenges in high resolution NWP to meet the expectations from users of NWP regarding accurate forecastiing of high impact weather

15:30–15:45 | Henrik Feddersen
Experiences with DMI's operational short-range ensemble prediction system

15:45–16:00 | Patrick Le Moigne
Design of a high-resolution land cover database for numerical modelling applications

END OF ORAL PROGRAMME OSA1.10

UP1.7 Arctic and Antarctic Meteorology

Lecture room: Glass Hall
Conveners: Lise Lotte Sørensen; Timo Vihma
Co-conveners: Sven-Erik Gryning; Ruth Mottram

14:00–14:15 | Sven-Erik Gryning
Boundary-layer height and Cloud cover in the High Arctic investigated by a ceilometer

14:15–14:30 | Irene Suomi
Interplay between large scale and local meteorological conditions in an Arctic fjord based on research aircraft measurements

14:30–14:45 | Andrey Grachev
Surface Energy Budget Closure at Arctic Terrestrial Sites over Different Temporal Scales

14:45–15:00 | Björn Maronga
Large-eddy simulations of the turbulent flow around RV Polarstern: wake effects and implications for measurements during MOSAiC

Antarctic meteorology

15:00–15:15 | Eric Bazile
Numerical experiment with the global model Arpege and the NH-model AROME for YOPP-SH

15:15–15:30 | Igor Petenko
Characteristics of the Surface-based Turbulent Layer over Three Polar Winters at Dome C, Antarctica as observed by Sodar

15:30–15:45 | Gabin Urbancic
Synoptically driven regimes of the Atmospheric Surface Layer over Dronning Maud Land, Antarctica

15:45–16:00: Poster pitches

END OF ORAL PROGRAMME UP1.7

UP2.2 Interactions of air pollutants, greenhouse gases, weather and climate from local/urban to global scales

Lecture room: S4
Convener: Leena Järvi
Co-conveners: Alexander Baklanov; Vincent-Henri Peuch; Zita Ferenczi

14:00–14:15: Poster pitches

14:15–14:30 | Jaroslav Resler
Validation of the model PALM-4U against observation campaign in Prague-Dejvice (solicited)

14:30–14:45 | Chao Yuan
Multilayer urban canopy modelling and mapping for traffic pollutant dispersion at high density urban areas

14:45–15:00 | Baojie He
Modelling the effect of urban ventilation on urban heat mitigation in precinct context

15:00–15:15 | Jacinthe Racine
How Air Quality Modelling Can Support the Development of Regulations at Environment and Climate Change Canada

15:15–15:30 | Fulvio Stel
Regional Scale Air Quality Numerical Simulations: performances and improvement road map (an attempt)

15:30–15:45 | Lili Wang
Exploring the regional pollution characteristics and meteorological formation mechanism of PM2.5 and O3 in North China during 2013-2017

15:45–16:00 | Vadim Rakitin
Atmospheric composition trends and changes in ABL parameters in Moscow region

ORAL PROGRAMME UP2.2 CONTINUES ON TUESDAY, 16:30

UP3.1 Climate change detection, assessment of trends, variability and extremes

Lecture room: Oticon Hall
Convener: Martine Rebetez
Co-conveners: Simona Fratianni; Albert M.G. Klein Tank; Monika Lakatos

14:00–14:15 | Alice Baronetti
Assessment of extreme drought episodes over Po Plain (Italy)

14:15–14:30 | Jonathan Spinoni
Ranking the most severe meteorological drought events in 1951-2018

14:30–14:45 | Andreas Philipp
Optimization of circulation type classifications considering periods of drought in Central Europe

14:45–15:00 | Anna Shestakova
Extreme winds in the Arctic coast of Russia: genesis, climatology, trends

15:00–15:15 | Joanna Wibig
The variability of maximum wind gusts in Poland in the period 1966-2018

15:15–15:30
Abstract withdrawn

15:30–15:45 | Jian Su
High-resolution multi-model projections of extreme wind events over Denmark: How to select regional climate scenarios for impact modelling studies?

15:45–16:00: Poster pitches

ORAL PROGRAMME UP3.1 CONTINUES ON TUESDAY, 16:30

UP3.5 Climate modelling

Lecture room: S1
Convener: Stefan Sobolowski
Co-conveners: Bodo Ahrens; Barbara Chimani

14:00–14:15 | Juan Pedro Montavez
Influence of vegetation on the climate variability of the Iberian Peninsula

14:15–14:30 | Christopher Purr
Space-time dynamics of convective rain cells in model and radar data

14:30–14:45 | Cristina Primo
A Regional Climate Atmosphere-Ocean System over Europe for the 20th Century and its Impact Describing Regional Climate Change

14:45–15:00 | Renata Sokol Jurković
Bias correction of regional climate models over Croatian region - influence on statistical measures of temperature and precipitation

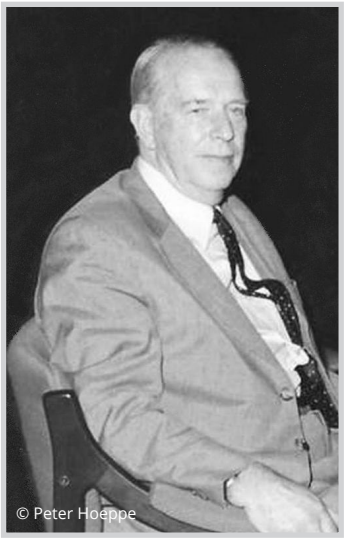
15:00–15:15 | Maria Ángeles Burgos Simón
Assessment on the differences between climate models and in-situ measurements of aerosol optical hygroscopic growth

15:15–15:30 | Tomas Halenka
Urbanization in regional climate modelling

15:30–16:00: Poster pitches

END OF ORAL PROGRAMME UP3.5

Solco W. Tromp Foundation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Solco W. Tromp was born in March 1909. He studied geology and geography at Leyden University, The Netherlands, and after he received his PhD he worked as an exploration geologist for oil companies. In 1955, he switched to biometeorology and founded the Biometeorological Research centre in Leyden. In the same year he founded the International Society for Biometeorology of which he was secretary until 1976. Solco W. Tromp combined three distinct qualities, a highly scientific mind, an excellent organisational talent and a logical intellect. By 1953, he already achieved a substantial bibliography on topics, which we may refer to as biomedical science or medical geography.

After his death in 1993 part of his legacy was allocated to The Tromp Foundation (Foundation for Biometeorological Research). The aim of the Foundation is to promote Biometeorology.

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 wellbeing of all living beings?«

The **EMS Tromp Award** has been established in 2015 and is awarded for the fifth time this year. The awardee receives € 1,000 and travel expenses to attend the EMS Annual Meeting. The EMS Tromp Award 2019 winner is Diego G. Miralles, Ghent University, Belgium. Previous awardees are: Fiorella Acquaotta from Italy (2018), Stéphanie Horion from Denmark (2017), Barbara Templ from Hungary (2016), and Bert G. Heusinkveld from The Netherlands (2015).

The Tromp Foundation also funds **EMS Tromp Young Scientist Travel Awards** for papers that are presented at the EMS Annual Meeting specifically on topics in biometeorology.

Tuesday, 16:30–18:30

OSA1.9 Forecasters' session

Lecture room: M1
Convener: Henri Nyman
Co-conveners: Christian Csekits; Evelyn Cusack; Antti Mäkelä

16:30–17:00 | Sebastian Schemm
When during Their Life Cycle Are Extratropical Cyclones Attended by Fronts? And What is a Front? (Young Scientist Award Lecture)

17:00–17:15 | Tomislava Hojsak
Weather types during large forest fires in Croatia

17:15–17:30 | Tony Wardle
Antarctic Operational Weather Forecasting; A unique Meteorological challenge

17:30–17:45 | Niilo Siljamo
Operational daily snow extent products from EUMETSAT weather satellites

17:45–18:00 | Lovro Kalin
Forecasting freezing rain: tools, experiences and case studies

18:00–18:15 | Szymon Poręba
Forecasting challenges associated with supercells of 7th July 2017 over south-western Poland

18:15–18:30 | Timothy Hewson
Operational Uses for new Point Rainfall Forecasts

END OF ORAL PROGRAMME OSA1.9

OSA2.2 Agricultural meteorology

Lecture room: S1
Convener: Keith Lambkin
Co-conveners: Josef Eitzinger; Sándor Szalai

16:30–17:00 | Diego G. Miralles
Land-atmospheric feedbacks during droughts and heatwaves (EMS Tromp Award Lecture)

17:00–17:15 | Hao Yan
Assessing spatiotemporal variation of drought in China and its impact on agriculture during 1982-2011 by using PDSI indices and agriculture drought survey data

17:15–17:30 | Dorothée Kapsambelis
Impact of climate change on agricultural economic losses in France: modelling drought and frost events in 2050 and their impact on agricultural yield loss rates

17:30–17:45 | Josef Eitzinger
Uncertainties of crop model simulations in relation to spatial input data resolution

17:45–18:00 | Claire Thomas
Photosynthetically Active Radiation estimated from satellite imagery: quality assessment of several methods against the measurements at several locations in Europe

18:00–18:15: Poster pitches (3 minutes each)

18:15–18:30: Discussion

END OF ORAL PROGRAMME OSA2.2

OSA2.3 Energy meteorology

Lecture room: Glass Hall
Convener: Sven-Erik Gryning
Co-conveners: Ekaterina Batchvarova; Marion Schroedter-Homscheidt; Yves-Marie Saint-Drenan

16:30–16:45 | Bénédicte Jourdier
Evaluation of ERA5 and other reanalyses to simulate wind power production over France

16:45–17:00 | Bjarke Olsen
Mapping the European wind climate: validation of the New European Wind Atlas

17:00–17:15 | Rogier Floors
Statistical coupling of mesoscale and microscale simulations: combining WRF and WAsP for wind resource assessments

17:15–17:30 | Petrina Papazek
Short-Range Wind Speed Forecasts by Convolutional Neural Networks

17:30–17:45 | Andrey Sogachev
Numerical modelling of the wind over forests: roughness vs. canopy drag

17:45–18:00 | Andreas Platis
Evaluation of Offshore Wind Farm Wakes

18:00–18:15 | Moritz Mauz
First Identification and Quantification of Detached Tip Vortices Behind a WEC Using Fixed Wing UAS

18:15–18:30: Poster pitches

ORAL PROGRAMME OSA2.3 CONTINUES ON WEDNESDAY, 10:30

UP2.1 Ocean - atmosphere interactions and coastal processes

Lecture room: S9
Conveners: Sandro Carniel; Mario Marcello Miglietta
Co-conveners: Joanna Staneva; Matjaz Licer; Antonio Ricchi

16:30–16:45: Poster pitches (short presentations)

16:45–17:00 | Erik Nilsson
Renewable energy and accessibility aspects in the Baltic Sea region

17:00–17:15 | Jana Fischereit
Interactions of oceanic surface waves and offshore wind farm wakes

17:15–17:30 | Jose Antonio Salinas
Wind waves associated to the Caribbean low-level jet

17:30–17:45 | Rahmat Hidayat
ENSO influences on Indonesian rainfall variability: Role of atmosphere-ocean interaction in tropical Pacific sector

17:45–18:00 | Anne Wiese
Assessing the added value of using a Wave Boundary Layer Model in a coupled wave-atmosphere model system

18:00–18:15 | Gabriella Lükő
Observation of wave-driven air-water turbulent momentum exchange in a large but fetch-limited shallow lake

18:15–18:30 | Vladimir Platonov
Modelling of extreme hydrometeorological phenomena over the Kara Sea and Arctic coast

END OF ORAL PROGRAMME UP2.1

UP2.2 Interactions of air pollutants, greenhouse gases, weather and climate from local/urban to global scales

Lecture room: S4
Convener: Leena Järvi
Co-conveners: Alexander Baklanov; Vincent-Henri Peuch; Zita Ferenczi

16:30–16:45 | Margarita Choulga
Anthropogenic CO_2 emission uncertainties

16:45–17:00
Abstract withdrawn

17:00–17:15 | Andreas Eleftheriou
From predictions to actual measurements, an investigation between recordings of data in the south-east mediterranean region

17:15–17:30 | Igor Esau
An integrated approach for high-reslution environmental impact assessment

17:30–17:45 | Tomas Halenka
Project URBI PRAGENSI - Urbanization of Weather Forecast, Air-Quality Prediction and Climate Scenarios

17:45–18:00 | Pavel Konstantinov
Investigation of microclimate and spatio-temporal structure of surface inversions in urban area in the Eastern Arctic

18:00–18:15 | Raquel Lorente-Plazas
Impacts of cloud-aerosols-radiation interactions on Atmospheric Rivers hitting European Atlantic coast as simulated by RCMs

18:15–18:30 | Oleg Postylyakov
Comparison of high-detailed satellite field and model data on tropospheric NO2 distribution in polluted areas

END OF ORAL PROGRAMME UP2.2

UP3.1 Climate change detection, assessment of trends, variability and extremes

Lecture room: Oticon Hall
Convener: Martine Rebetez
Co-conveners: Simona Fratianni; Albert M.G. Klein Tank; Monika Lakatos

16:30–16:45 | Radan Huth
New insights into spatio-temporal variations of trends in multiple variables by multivariate statistical methods

16:45–17:00 | Agnieszka Wypych
Air temperature and precipitation variability in the Polish Carpathians

17:00–17:15 | Jean-Michel Soubeyroux
Snow trend analysis and future evolution in the Pyrenees

17:15–17:30 | Stephen Outten
Extreme weather events over Europe in the Euro-CORDEX Models

17:30–17:45 | Dominic Matte
On spatial scale changes in extreme precipitation events over Europe for different climate targets

17:45–18:00 | Anita Verpe Dyrrdal
Expected future changes in the Arctic-Norwegian island of Svalbard.

18:00–18:15 | Shuting Yang
On the decadal variability in the Subpolar North Atlantic and its recent abrupt cooling trend

18:15–18:30 | Louisa Bell
Changes in winter season climate within an urban area based on regional climate model results

END OF ORAL PROGRAMME UP3.1

Posters Tuesday, 10:00–11:00

OSA1.2 Numerics and physics-dynamics coupling in weather and climate models

Convener: Daniel Reinert
Co-Convener: Guy de Morsier
Poster pitches: Mon, 18:00, room S9

P13 | Edoardo Bucchignani
High-resolution simulations with COSMO-LM including TERRA-URB parameterization for the representation of Urban Heat Islands over South Italy

P14 | Ákos János Varga
Sensitivity of the WRF regional climate model to different dynamical and physical configurations in the Carpathian Basin region

P15 | Hyun Nam
Comparison of Semi-Lagrangian Scheme and Eulerian Spectral Element Scheme for the Tracer Transport Problem on Cubed-Sphere Grid

P16 | Ja-Rin Park
Vertical finite element discretization on staggered grids used in a cubed sphere spectral element model

P17 | Daniel Reinert
Exploring the effects of an improved vertical discretization in ICON

P18 | Suk-Jin Choi
Improving Computational Efficiency in a Spectral Element Cubed-Sphere Model

END OF POSTER PROGRAMME OSA1.2

UP1.5 Atmospheric measurements: Instruments, experiments, networks and long-term programs using in-situ and remote sensing techniques

Convener: Frank Beyrich
Co-conveners: Fred C. Bosveld; Jens Bange; Domenico Cimini
Poster pitches: Mon, 17:45, room M1

Poster Session Part II

Experiments and networks

P101 | Sven Brinckmann
DWD climate reference measurements: error correction and uncertainty estimation for measurements with the LTS-2000 temperature sensor

P102 | Frank Beyrich
Uncertainty estimates of local global radiation measurements taking into account the mesoscale spatial and temporal variability

P103 | Martin Schoen
Linking boundary layer aerosol particles and dynamics between different measurement sites with unmanned aerial systems in Ny-Ålesund

P104 | Evert I. F. de Bruijn
Opportunistic sensing with recreational hot-air balloon flights

P105 | Yann Büchau
A Dense Sensor Network to Monitor Natural CO_2 Emissions

P106 | Hyounggu Nam
Classification of Atmospheric Vertical Environment Associated with Summertime Heavy Rainfall in Seoul

Sensor development and micrometeorological measurements

P107 | Eric Gonzalez Peralta
Development of a prototype spectrophotometer based on an acousto-optic tunable filter for measurements of total column ozone

P108 | Igor Petenko
Problems of measurements of weak turbulence with ultrasonic anemometer-thermometers

P109 | Tamás Weidinger
Urban new aerosol particle formation, its relation to local meteorology and profile measurements in the lower PBL

P110 | Guylaine Canut
Seven years (2012-2018) of continuous observation of the surface energy budget and of soil moisture and temperature profiles in a peri-urban aera

P111 | Fred C. Bosveld
The Influence of Atmospheric Boundary Layer Turbulence on a Microbarometer Array for Infrasound Detection

P112 | Aurore Brut
Comparisons of turbulent fluxes measurements over crops estimated with 2 independent Eddy Covariance set-ups and uncertainties..

P113 | Robin Vinther Nielsen
The necessity of further ground based atmospheric observations on Mars

END OF POSTER PROGRAMME UP1.5

UP2.4 The cryosphere and cold region processes in the global climate system

Conveners: Renato R. Colucci; Andrea Fischer; Marco Tedesco
Co-conveners: Costanza Del Gobbo; kay Helfricht; Kyle Mattingly
Poster pitches: Mon, 14:00, Glass Hall

P191 | Kay Helfricht
Microclimate and temperature distribution inside a randkluft system - first observations and insights

P192 | Ruonan Zhang
The Impact of Arctic Sea Ice on the Interannual Variations of Summer Ural Blocking

P193 | Olga Osipova
Atmospheric circulation and precipitation regime over the Kodar Ridge, south East Siberia

P194 | Olivier Audouin
ARPEGE-Climat behavior on a stable boundary layer at Dome C and statistical analysis of its sensitivities to the turbulence parameterization internal parameters.

P195 | Zhaoguo Li
The characteristic of radiation balance and its effect in the Tibetan Plateau lakes during the frozen period

P196 | Yinhuan Ao
Numerical simulation of the lake-atmosphere interaction and its influence on regional climate in the Tibetan Plateau

P197 | Tian Tian
Refinement methods of Arctic sea-ice initialization for improving the decadal prediction skill in the Arctic

P198 | Duoying Ji
Response of permafrost under solar geoengineering

P199 | Nadine Salzmann
Evaluation of continuous and autonomous snow water equivalent measurements by a cosmic ray sensor on a Swiss glacier

P200 | Costanza Del Gobbo
High resolution regional climate simulation at the alpine LGM

END OF POSTER PROGRAMME UP2.4

UP2.9 Short lived climate forcers and climate in the Arctic

Lecture room: Glass Hall
Convener: Henrik Skov
Co-convener: Hans-Christen Hansson

P210 | Jakob Pernov
Correlation of meteorological parameters with clustering analysis of aerosol types in High Arctic

P211 | Andreas Massling
Subsaturated and supersaturated hygroscopic properties of Arctic aerosols

P212 | Henrik Skov
Surface ozone at Villum Research Station in High Arctic

END OF POSTER PROGRAMME UP2.9

Posters Tuesday, 16:30–18:30

OSA1.10 Challenges in High Resolution Short Range NWP at European level including forecaster-developer cooperation

Convener: Balázs Szintai
Co-conveners: Chiara Marsigli, Emily Gleeson

P37 | Margarita Choulga
Actual status and developments of Global Lake DataBase GLDB

P38 | Máté Mile
Impact of observations on the AROME-Arctic regional model

P39 | Viktoria Homonnai
Aircraft based observations in AROME/HU

P40 | Geoffrey Bessardon
Using the best available physiography to improve weather forecasts for Ireland

P41 | Jana Potanková
Very high precipitation amounts in western Slovakia at the beginning of September 2018

END OF POSTER PROGRAMME OSA1.10

UP1.7 Arctic and Antarctic Meteorology

Conveners: Lise Lotte Sørensen; Timo Vihma
Co-conveners: Sven-Erik Gryning; Ruth Mottram
Poster pitches: Tue, 15:45, Glass Hall

P115 | Dieter Etling
Meteorological aspects of S.A. Andrée's attempt to reach the North Pole by balloon in1897

P116 | Lise Lotte Sørensen
Development of turbulence, stratified boundary layers and Low Level Jets in the Arctic coastal atmosphere at Station Nord, Greenland

P117 | Alfons Callado
The Spanish AEMET-γSREPS convection-permitting LAM-EPS in Antarctica

P118 | Ewa Łupikasza
Changing probability of snow and rain in the Atlantic Sector of the Arctic on the background of current warming

P119 | Mauro Boccolari
On the statistical contribution of cloud fraction cover to the summer sea-ice extent of 15 Arctic sub-regions, 1982-2015

P120 | Przemyslaw Wyszynski
Air temperature variability in NE Greenland in 1927-2017

P121 | Oeyvind Nordli
Long-term trends and variability on Spitsbergen: the extended Svalbard Airport series of daily mean temperature, 1898-present

P122 | Xiaohua Yang
Operational weather prediction for Greenland with high resolution NWP forecast system HARMONIE-arome

P123 | Debashis Nath
What drives the rapid sub-Arctic continental warming during summer?

P124 | Ketil Isaksen
Recent warming and long-term temperature trends in the northern Barents Sea along the 80th parallel north

END OF POSTER PROGRAMME UP1.7

EMS Annual Meeting 2020

European Conference for Applied Meteorology and Climatology

7 - 11 September 2020

University of Economics, Bratislava, Slovakia

photo by Peter Tóth from Pixabay

Wednesday, 09:00–09:30

09:00–09:30

Keynote Lecture on Engagement with Society (ES)

Climate change knowledge for informed policy making and implementation

By Hans Bruyninckx, Executive Director European Environment Agency, Copenhagen

Wednesday, 09:30–10:30

Poster session & refreshment break:
For details of the poster programme see page 78–86

Wednesday, 10:30–12:30

ES1.3 Climate change impacts, vulnerability and adaptation

Lecture room: S1
Convener: Blaz Kurnik
Co-convener: Tanja Cegnar

10:30–10:45 | Hans-Martin Füssel
Climate adaptation challenges and opportunities for the European energy system

10:45–11:00 | Jonathan Spinoni
A multi-hazard assessment for European cities (Covenant of Mayors Initiative)

11:00–11:15 | Astrid Kainz
Modelling the effects of implementing green infrastructure to support urban climate change adaptation and resilient urban planning

11:15–11:30 | Jose Ramon Picatoste Ruggeroni
The European adaptation platform Climate-ADAPT

11:30–11:45 | Kristine S. Madsen
The Danish Climate Atlas: co-creation of climate information between met office and users

11:45–12:00 | Anita Verpe Dyrrdal
Updated "climate factors" for use in planning and design of infrastructure in Norway

12:00–12:15 | Jevon Keane-Brennan
Climate change attribution and extreme weather events. From the perspective of the stakeholder (EUPHEME)

12:15–12:30 | Walther C. A. Camaro Garcia
Essential Climate Variables supporting Adaptation Planning for Climate Change: Reflections and Future Directions

END OF ORAL PROGRAMME ES1.3

OSA1.5 Data assimilation and use of observations in meteorology and oceanography

Lecture room: S9
Conveners: Sarah Dance; Alexander Cress
Co-conveners: Guergana Guerova; Kasper S. Hintz; Jonathan Jones

10:30–11:00 | Henrik Vedel
On E-GVAP and the use of E-EGVAP data

11:00–11:15 | Tomasz Hadas
Real-time GNSS meteorology - state of the art and challenges

11:15–11:30 | Vassiliki Kotroni
Using GNSS data to improve precipitation nowcasting and forecasting

11:30–11:45 | Guillaume Thomas
Towards the use of polarimetric radar observations in the AROME-France convective scale NWP

11:45–12:00 | Mayeul Destouches
Impact of Hydrometeor Initialization on Short-Term Convective-Scale Numerical Weather Prediction

12:00–12:15 | Thibaut Montmerle
Approaches to reduce sampling noise of background error covariances used in AROME-France EnVar

12:15–12:30: Poster pitches

ORAL PROGRAMME OSA1.5 CONTINUES ON WEDNESDAY, 13:30

OSA2.3 Energy meteorology

Lecture room: Glass Hall
Convener: Sven-Erik Gryning
Co-conveners: Ekaterina Batchvarova; Marion Schroedter-Homscheidt; Yves-Marie Saint-Drenan

10:30–10:45 | Ping Wang
Surface solar radiation forecasts by advecting cloud physical properties derived from Meteosat Second Generation observations

10:45–11:00 | Viivi Kallio-Myers
Surface solar radiation forecast for Finland based on geostationary weather satellite data

11:00–11:15 | Marion Schroedter-Homscheidt
Surface solar irradiance temporal variability as derived from geostationary satellite-based cloud observations

11:15–11:30 | Minttu Tuononen
Using ceilometers for renewable energy applications

11:30–11:45 | Mélodie Trolliet
Evaluating the validity of the stationarity hypothesis of yearly solar irradiation data using long-term time series from the GEBA network

11:45–12:00 | Rafael Fritz
Linear modelling for PV with multiple irradiation data: Before or after power conversion?

12:00–12:15 | Eleni Karnezi
Mineral dust modeling for optimizing operation and maintenance procedures in concentrated solar power plants

12:15–12:30 | Valentina Sessa
Modeling the climate dependency of the run-of-river based hydro power generation using machine learning techniques: an application to French, Portuguese and Spanish cases

END OF ORAL PROGRAMME OSA2.3

UP1.3 Understanding and modelling of atmospheric hazards and severe weather phenomena

Lecture room: M1
Conveners: Fulvio Stel; Arne Spekat
Co-conveners: Dario Giaiotti; Mario Marcello Miglietta; Sante Laviola; Jordi Mazon; Victoria Sinclair

10:30–10:45: Poster pitches

Fog, drought and turbulence

10:45–11:00 | yuyun Liu
The 2017-2018 Winter Drought in North China and Its Causes

11:00–11:15 | Aurelian Radu
Study of Clear Air Turbulence in Romanian Airspace

11:15–11:30 | Jun Yang
Advection fog and its microphysical properties: A case study in Tianjin, China

Sea and severe weather

11:30–11:45 | Jiangyu Mao
A diagnostic study on the influence of interactions between tropical and mid-latitude intraseasonal oscillations around the Tibetan Plateau on the extreme Yangtze floods

11:45–12:00 | Antonio Ricchi
Modelling the influence of the sea on "Rapid Cyclogenesis": 2018 "VAIA" events

Heavy precipitation

12:00–12:15 | Lichao Yang
Spatial-Temporal modelling of extreme precipitation in Brandenburg-Berlin, Germany, of observations and regional climate models

12:15–12:30 | Andreas Dobler
Present and future heavy rainfall statistics for Svalbard

ORAL PROGRAMME UP1.3 CONTINUES ON WEDNESDAY, 13:30

UP2.6 Exploring the interfaces between meteorology and hydrology

Lecture room: Oticon Hall
Conveners: Timothy Hewson; Conor Murphy; Fatima Pillosu

Surface interactions

10:30–10:45 | Margarita Choulga
Verification of lake surface water temperature and ice on/off dates

10:45–11:00 | Daria Gladskikh
On the simulation of inland waters in large-scale models: parameterization of mixing processes

11:00–11:15 | Annu Panwar
Evaporative Fraction estimated from surface observations of humidity using a simple boundary layer model.

11:15–11:30 | Olga Silantyeva
Understanding terrain topography impact on snowmelt at catchment scale

11:30–11:45 | Pardeep Pall
Constructing and simulating a rain-on-snow climatology for Norway

Flood Forecasting

11:45–12:00 | Rasmus Benestad
The rain check

12:00–12:15 | Axelle Fleury
Ensemble-derived precipitation forecasts for flash-flood events prediction

12:15–12:30 | J. Olsson
Pluvial flooding support through rainfall indicators and tailored visualization

ORAL PROGRAMME UP2.6 CONTINUES ON WEDNESDAY, 13:30

Wednesday, 13:30–15:30

ES2.1 Communication and media

Lecture room: Glass Hall
Convener: Tanja Cegnar

13:30–13:45 | Jay Trobec
How the media works: What makes news and weather interesting?

13:45–14:00 | Stanislava Tsalova
TV weather forecast studio presentation

14:00–14:15: EMS TV Weather Forecast Award 2019: Karsten Schwanke

14:15–14:30 | Gerald Fleming
Weather Live - sugar-coating the pill of science

14:30–14:45 | Martin Göber
How do emergency managers use probabilistic weather forecasts in different weather situations

14:45–15:00 | Neil Fletcher
Increasing information outreach and effectiveness

15:00–15:15 | Rasmus Benestad
Telling the story based on facts: how get message out and how to support it with science

15:15–15:30: EMS Journalist Award 2019: Amanda Ruggeri, UK

ORAL PROGRAMME ES2.1 CONTINUES ON WEDNESDAY, 16:00

OSA1.5 Data assimilation and use of observations in meteorology and oceanography

Lecture room: S9
Conveners: Sarah Dance; Alexander Cress
Co-conveners: Guergana Guerova; Kasper S. Hintz; Jonathan Jones

13:30–14:00 | Milad Asgarimehr
GNSS-Reflectometry for Earth Observation: History, Results and Prospects

14:00–14:15 | Jasmin Vural
Assimilation of SCATSAR-SWI with SURFEX: Impact of local observation errors

14:15–14:30 | Christine Sgoff
Assimilation of near-surface observations: Impact on the atmospheric boundary layer

14:30–14:45 | Máté Mile
Advanced use of scatterometer observations in mesoscale Arctic data assimilation: the supermodding method

14:45–15:00 | Gareth Dow
Impact of Mode-S wind observations in the UK convective-scale model

15:00–15:15 | Christian Schluchter
MeteoDrones - Influence of UAV data on Short-Term Fog and Cloud Forecasting

15:15–15:30 | Changxiang Yan
Assimilation of Sea Surface Temperature into a Global Hybrid Coordinate Ocean Model

END OF ORAL PROGRAMME OSA1.5

UP1.3 Understanding and modelling of atmospheric hazards and severe weather phenomena

Lecture room: M1
Conveners: Fulvio Stel; Arne Spekat
Co-conveners: Dario Giaiotti; Mario Marcello Miglietta; Sante Laviola; Jordi Mazon; Victoria Sinclair

13:30–13:45 | Karianne Ødemark
Applying NWP-ensembles to identify different large scale setups for analyzing local extreme precipitation

Deep convection

13:45–14:00 | Liguang Wu
Large-Eddy Simulation of Extreme Updrafts in the Tropical Cyclone Inner Core

14:00–14:15 | Vincenzo Capozzi
Observation and simulation of a tornadic supercell over the plain of Caserta (Southern Italy) using X-band weather radar and WRF model in LES mode

14:15–14:30 | Yongqing Wang
Theoretical Analysis and Numerical Study on the Development Mechanism of Squall Line in the Northeast Cold Vortex in China

Hail climatology and impacts

14:30–14:45 | João Andrade Santos
Climatology of hail in Portugal and consistency with atmospheric circulation

14:45–15:00 | Cornelia Schwierz
A Hail Storm Climatology for Switzerland

15:00–15:15 | Tomas Pucik
Large hail impacts and hail-related financial losses across Europe

15:15–15:30 | Pieter Groenemeijer
Estimating changes in high-end hail losses in Europe using a hail event set

END OF ORAL PROGRAMME UP1.3

UP2.6 Exploring the interfaces between meteorology and hydrology

Lecture room: Oticon Hall
Conveners: Timothy Hewson; Conor Murphy; Fatima Pillosu

13:30–13:45 | Francesca Viterbo
A Cross-Scale, Hydro-Meteorological Forecast Evaluation of National Water Model Forecasts of the May 2018 Ellicott City, MD Flood

13:45–14:00 | Helen Griffith
Why do Atmospheric Rivers cause Different Floods?

14:00–14:15 | Jan Verkade
Real-time, operational fluvial flood and storm surge forecasting at global scale: GLOFFIS and GLOSSIS

Long Range Predictions

14:15–14:30 | Marie-Amélie Boucher
Dynamical S2S meteorological forecasts for hydrology: can they do better than good old climatology-based ensembles?

14:30–14:45 | Alison Rudd
Hydrological Outlook UK: seasonal river flow forecasts using rainfall forecasts

14:45–15:00 | Massimiliano Zappa
Drought 2018 in Switzerland: ensemble forecasts, severity and perception

15:00–15:15 | Delphine Leroux
Seasonal forecast of the groundwater resource in France

15:15–15:30 | Rafael Rosolem
Evaluating the representation of a simplified groundwater scheme for Earth system modeling applications

15:30-15:36 | Poster pitches (6 posters)

END OF ORAL PROGRAMME UP2.6

UP3.2 Mid-latitude atmospheric teleconnection dynamics

Lecture room: S1
Convener: Javier Garcia-Serrano
Co-conveners: Paolo Davini, Yannick Peings

Polar-non polar linkages

13:30–14:00 | Tido Semmler
Arctic influence on mid-latitude weather and climate: recent progress and future prospects (solicited)

14:00–14:15 | Yu Feng Siew
Causal Effect Networks for Arctic-midlatitude teleconnections

14:15–14:30 | Lise Seland Graff
Arctic amplification under global warming of 1.5°C and 2.0°C in the Norwegian Earth System Model

14:30–14:45 | Anne Seidenglanz
Atmospheric circulation response to eastern Arctic sea ice loss in initialized ensemble forecasts

14:45–15:00 | Martin Stendel
Dramatic changes in atmospheric circulation connected to the disappearance of sea ice

15:00–15:15
Abstract withdrawn

15:15–15:30 | Evangelos Tyrlis
Ural blocking linking the extremes of Arctic sea-ice loss, cold Eurasia and weak stratospheric vortex in autumn 2016

ORAL PROGRAMME UP3.2 CONTINUES ON WEDNESDAY, 16:00

Wednesday, 16:00–18:00

ES2.1 Communication and media

Lecture room: Glass Hall
Convener: Tanja Cegnar

16:00–16:15 | Mark McCarthy
Communicating the state of UK Climate

16:15–16:30 | Peter Hoeppe
2019 has a high potential to mark a turning point on climate change communication and mitigation

16:30–16:45: EMS Outreach & Communication Award 2019: Communicating climate change in the Italian Region Friuli-Venezia-Giulia

16:45–17:00 | Tanja Cegnar
A long and winding road from data to users satisfaction

17:00–17:05: Poster presentation Værpodden: A podcast from MET Norway focusing on weather and outdoor life

17:05–17:15: Feedback from Communication workshop

END OF ORAL PROGRAMME ES2.1, PROGRAMME CONTINUES WITH ES3.2

ES3.2 Round Table on Accreditation, certification and quality management

Lecture room: Glass Hall
Conveners: Tanja Cegnar, Gerald Fleming

17:15–18:00: This Round Table will discuss accreditation, certification and quality management systems in European countries: what can be learned from each other and where can we collaborate.

END OF ORAL PROGRAMME ES3.2

OSA1.7 Forecast verification

Lecture room: S9
Convener: Marion Mittermaier
Co-conveners: Manfred Dorninger; Anna Ghelli

16:00–16:15 | Sebastian Buschow
Spatial forecast verification with wavelets

16:15–16:30 | Michael Hoff
Object-based verification of radar reflectivities on the convective scale

16:30–16:45 | Marion Mittermaier
High resolution Verification Evaluation (HIVE) - an assessment framework for ocean forecast products

16:45–17:00 | Manfred Dorninger
Very uncertain observations - Exploring the impact of observational uncertainty on the skill of icing forecasts

17:00–17:15 | Mark A. Liniger
Wind forecasts in complex topography - a comparative verification for Switzerland

17:15–17:30 | Rafael Fritz
Verification of Renewable Energy Forecasts at Transformer Stations of the German Transmission Grid

17:30–17:45 | Rachel North
Use of a satellite climatology to assess forecasts of daily precipitation accumulations over both land and sea with the SEEPS score

17:45–18:00: Poster pitches

END OF ORAL PROGRAMME OSA1.7

UP1.6 High-resolution precipitation monitoring and statistical analysis for hydrological and climate-related applications

Lecture room: Oticon Hall
Conveners: Miloslav Müller; Tanja Winterrath
Co-conveners: Andreas Becker; Elsa Cattani; Auguste Gires; Katharina Lengfeld; Aart Overeem; Marie-Claire ten Veldhuis; Massimiliano Zappa; Markus Ziese

Satellite Data

16:00–16:15 | Chris Kidd
Challenges in satellite precipitation estimation across scales

16:15–16:30 | Camille Le Coz
Applying image morphing to precipitation data, a case study in Southern Ghana

16:30–16:45 | Julia Kukulies
Tracking precipitation features of meso-scale convective systems in the Third Pole region

16:45–17:00 | Janice Bytheway
Evaluating Quantitative Precipitation Estimate Uncertainty in Complex Terrain for Use in Quantitative Precipitation Forecast Validation

Hydrology

17:00–17:15 | Martin Drews
Understanding the compound risk of extreme pluvial and fluvial floods

17:15–17:30 | Phoebe Hänsel
Development of a muddy flood early warning system using high-resolution radar precipitation forecasts and process-based erosion modelling

17:30–17:45: Poster pitches

17:45–18:00: Discussion

ORAL PROGRAMME OF UP1.6 CONTINUES ON THURSDAY, 10:30, ROOM S1

UP3.2 Mid-latitude atmospheric teleconnection dynamics

Lecture room: S1
Convener: Javier Garcia-Serrano
Co-conveners: Paolo Davini, Yannick Peings

Tropical-extratropical teleconnections

16:00–16:15 | Bernat Jiménez-Esteve
ENSO influence on the North Atlantic: Interaction between the stratospheric and the tropospheric pathways (Young Scientist Travel Award)

16:15–16:30 | Martin Peter King
Uncertainty of ENSO teleconnection in the Northern Hemisphere

16:30–16:45 | Martin Andrews
Observed and Simulated Teleconnections Between the Stratospheric Quasi-Biennial Oscillation and Northern Hemisphere Winter Atmospheric Circulation

16:45–17:00 | Bradford Barrett
Teleconnections between the tropics and the middle and high latitudes of the Southern Hemisphere on the subseasonal time scale

Mid-latitude climate variability

17:00–17:15 | Emanuele Di Carlo
Effects of mean state of climate models on the response to prescribed forcing: Sensitivity experiments with the SPEEDY general circulation model.

17:15–17:30 | Paolo Ruggieri
Atlantic Multidecadal Variability and North Atlantic storm track

17:30–17:45 | Dario Nicolì
Decadal-scale predictability of Eurasian summer precipitation: the role of AMV

17:45–18:00 | Thomas Oudar
Assessing and understanding the sensitivity of the boreal winter extratropical atmospheric circulation to an abrupt CO_2 increase

END OF ORAL PROGRAMME UP3.2

UP3.7 Analysis and predictions of tropical cyclones from subseasonal to decadal time scales

Lecture room: M1
Convener: Yuhei Takaya
Co-conveners: Louis-Philippe Caron; Philip Klotzbach

16:00–16:15 | Karl Hoarau
The category 5 typhoon activity in the Western North Pacific Ocean over the past 40 years (1979-2018)

16:15–16:30 | Chih Hua Tsou
Impact of scale-interaction on the TC simulation and future projection in 23-km HiRAM and 20-km MRI climate models

16:30–16:45 | Yuhei Takaya
New sources of the seasonal tropical cyclone predictability in the western North Pacific

16:45–17:00 | Yamin Hu
The Precursor Signal Analysis and Prediction for the Landfall Typhoon Intensity over South China

17:00–17:15 | Raphael Rousseau-Rizzi
Contributions to the Atlantic potential intensity decrease during the 1970s and 1980s hurricane drought

17:15–17:30 | Philip Klotzbach
A Statistical/Dynamical Hybrid Model Approach to Atlantic Basin Seasonal Hurricane Prediction

17:30–17:45 | Jhordanne Jones
Inclusion of subtropical anticyclonic wave breaking in North Atlantic seasonal tropical cyclone forecasts

17:45–18:00 | Peter Pfleiderer
Forecasting the activity of the Atlantic tropical cyclone season using causal precursors of favorable conditions for tropical cyclone formation

Poster pitches

END OF ORAL PROGRAMME UP3.7

Posters Wednesday, 09:30–10:30

ES1.2 Creating value through Open Data

Convener: Renate Hagedorn
Co-conveners: Eduard Rosert; Roope Tervo
Poster pitches: Tue, 12:45, Oticon Hall

P2 | Andrea Montani
Creating an Open data Portal for Citizens: the MISTRAL Project

P3 | Alexandros Bouras
The challenge of using high-resolution crowdsourcing data from vehicle sensors for a comprehensive observation network

END OF POSTER PROGRAMME ES1.2

ES1.3 Climate change impacts, vulnerability and adaptation

Convener: Blaz Kurnik
Co-convener: Tanja Cegnar

P4 | Daeha Kim
A risk-based decision-centric assessment of water supply capacity in a complex river basin under climate change

P5 | Maroš Turňa
Drought in Slovakia in the year 2018

P6 | Vit Kveton
Urban Heat Island of Prague and it's effect on day to day temperature variation

P7 | Erika Palin
Primavera: how can NMHSs profit from high-resolution climate modeling?

END OF POSTER PROGRAMME ES1.3

OSA1.3 Forecasting, nowcasting and warning systems

Conveners: Timothy Hewson; Yong Wang
Co-conveners: Bernhard Reichert; Fulvio Stel
Poster pitches: Tue, 16:00, room S9

P19 | Athanassios Karagiannidis
Drought and fire observatory and early warning system: The DISARM project

P20 | Michael Hoff
Development of a new seamless integrated forecasting system (SINFONY) at DWD

P21 | Young Kwon
Medium-range forecasts with a non-hydrostatic global atmospheric model on a cubed sphere grid

P22 | Ken Mylne
Seamless Probabilistic Forecasts from IMPROVER

P23 | Valentina Colaiuda
Regional ensemble forecast for early warning system over small Apennine catchments in Central Italy

P24 | Fatima Pillosu
"ecPoint-Rainfall", A Statistical Post-Processing System for Probabilistic Rainfall Forecasts at Point-Scale

P25 | Jan Verkade
The Delft-FEWS hydrological forecast production system

P26 | Shin-Hau Chen
Developing A Quality Index for Cloud-Resolving Typhoon Rainfall Forecasts in Taiwan based on Machine Learning

P27 | Nato Kutaladze
Nowcasting and very short range Weather Forecast for Georgia

P28 | Adam Jaczewski
Verification of surface precipitation type determined from weather radars, meteorological satellites, and numerical weather prediction model

P29 | Dorinel Visoiu
New challenges in forecasting thermal convection using the equivalent isothermal layer method

P30 | Giampietro Casasanta
The LIFE ASTI project to forecast Urban Heat Island effect

P31 | Olle Räty
Combining in-situ wind measurements from cruise ships with global numerical weather predictions using model output statistics

END OF POSTER PROGRAMME OSA1.3

OSA1.9 Forecasters' session

Convener: Henri Nyman
Co-conveners: Christian Csekits; Evelyn Cusack; Antti Mäkelä

P32 | Nina Karusto
A record storm over Baltic Sea on 2 January 2019

P33 | Bob Owens
The online ECMWF Forecast User Guide

END OF POSTER PROGRAMME OSA1.9

OSA2.1 Reducing weather risks to transport: air, sea and land

Convener: Fraser Ralston
Co-conveners: Ludovic Bouilloud; Christine Le Bot
Poster pitches: Tue, 12:45, room S9

P49 | Virve Karsisto
Road surface temperature estimation by utilizing air temperature observations

P50 | Santiago Gaztelumendi
A weather information tool for Basque roads drivers

P51 | Elina Tuhkalainen
Drone Weather Service for Drone Logistics

P52 | Jonathan Izett
Fog Alleviation: An Unintended Benefit of Airport Construction and Operations at Amsterdam's Schiphol Airport?

END OF POSTER PROGRAMME OSA2.1

OSA2.2 Agricultural meteorology

Convener: Keith Lambkin
Co-conveners: Josef Eitzinger; Sándor Szalai
Poster pitches: Tue, 18:00, room S1

P53 | Vicent Altava-Ortiz
Contribution of the meteorological conditions during the nocturnal period to daily values of Potential Evapotranspiration

P54 | Filip Chuchma
Development of maps of drought risk in forest stands based on the modification of evapotranspiration calculation

P55 | João Andrade Santos
Climate change implications on viticultural suitability of Portuguese wine denominations of origin

P56 | Martin Mozny
Impacts of climate change on hop production in Europe

P57 | Frédéric Huard
AgroMetInfo: a climate service for real time monitoring of agroclimatic conditions in France

END OF POSTER PROGRAMME OSA2.2

OSA2.3 Energy meteorology

Convener: Sven-Erik Gryning
Co-conveners: Ekaterina Batchvarova; Marion Schroedter-Homscheidt; Yves-Marie Saint-Drenan
Poster pitches: Tue, 18:15, Glass Hall

P60 | Felix Gödde
Predicting variability of horizontal surface solar irradiance using machine learning

P62 | Mathilde Marchand
Evaluating the spatial and temporal variations of the performance of CAMS Radiation Service and HelioClim-3 databases of surface irradiation in Germany

P63 | Mireille Lefèvre
Applying the Heliosat-4 method to four different cloud property databases for the estimation of the surface downwelling short wave irradiation.

P64 | James Barry
Photovoltaic system calibration with dynamic temperature model as a function of atmospheric conditions

P65 | Herman Böök
Photovoltaic System Modeling: A Validation Study at High Latitudes with Implementation of a Novel DNI Quality Control Method

P66 | Philipp Gregor
Nowcasting of solar radiation based on cloud cameras and satellite data for a predictive control system of a coupled photovoltaics and biogas plant

P67 | Uwe Pfeifroth
Climatological Analysis of the Solar and Wind Energy Potential in Germany

P68 | Sven-Erik Gryning
Wind Forecasting in a marine environment (WRF and GFS)

P69 | Bénédicte Jourdier
Evaluation of ERA5 and other reanalyses to simulate wind power production over France

P70 | Peter C. Kalverla
Beyond the spherical cow: a North Sea climatology of anomalous wind events

P72 | Jonathan Spinoni
Windstorm projections over European emerged lands

P73 | Turið Poulsen
Spectra and cross-spectra of wind and wind power time series in view of smoothing fluctuations in wind power on the Faroe Islands

P74 | Marko Kaasik
Wind generating power and cooling the power lines

P75 | Gregor Giebel
IEA Wind Task 36 Forecasting - Phase II

P76 | Kirsti Jylhä
Exceptional weather and sea level events in changing climate: experiences on providing user-relevant information to support nuclear power plant safety in Finland

P77 | Jennifer Ostermöller
Generating highly resolved seasonal forecasts for hydropower and energy system modelling in the CLIM2POWER project

END OF POSTER PROGRAMME OSA2.3

OSA3.7 MEDiterranean Services Chain based On climate PrEdictions (MEDSCOPE)

Convener: Silvio Gualdi
Co-conveners: Lauriane Batté; Javier Garcia-Serrano

P82 | Nuria Perez-Zanon
CSTools: a new R package for the calibration, combination, downscaling and analysis of seasonal forecasts

P83 | Paolo Ruggieri
Seasonal forecast skill in the winter stratosphere

P84 | Eroteida Sánchez-García
Regionally improved seasonal forecast of precipitation through Best estimation of winter NAO

P85 | Jose Voces
Verification of operational seasonal forecasting systems over Europe and Northern Africa

P86 | Alessandro Dell'Aquila
Analysing the uncertainty of reanalyses to assess the predictability at S2S time-scales of key climate and energy variables for the energy sector

P87 | Juan Carlos Sánchez-Perrino
Development and evaluation of a climate service supporting water reservoir management at seasonal time-scale

P88 | Marta Dominguez
Evaluation of a downscaling algorithm based on analogues for application at seasonal model outputs

P89 | Konstantinos Varotsos
Mediterranean agro-climate projections and the case of olives in Andalucia: results from the MED-GOLD project

P90 | Stefano Materia
Summer atmosphere response to extreme soil conditions in the Mediterranean region

P91 | Javier Garcia-Serrano
Multi-model assessment of the late-winter ENSO teleconnection in the Euro-Atlantic sector

END OF POSTER PROGRAMME OSA3.7

UP2.1 Ocean - atmosphere interactions and coastal processes

Conveners: Sandro Carniel; Mario Marcello Miglietta
Co-conveners: Joanna Staneva; Matjaz Licer; Antonio Ricchi
Poster pitches: Tue, 16:30, room S9

P175 | Domingo Rasilla
Coastal storms in northern spain: assessment of relationships between natural forcing mechanisms and spatio-temporal distribution of damages

P176 | Yafei Wang
The Role of Extratropical Air Systems in the ENSO Cycle

P177 | Maria Hatzaki
The role of meteorological forcing to Evros delta, NE Greece, flood events

END OF POSTER PROGRAMME UP2.1

UP2.2 Interactions of air pollutants, greenhouse gases, weather and climate from local/urban to global scales

Convener: Leena Järvi
Co-conveners: Alexander Baklanov; Vincent-Henri Peuch; Zita Ferenczi
Poster pitches: Tue, 14:00, room S4

P179 | Andrey Skorokhod
Variations of atmospheric contaminants in Moscow and their dependence on season and meteorological parameters

P180 | Xipeng Jin
Diagnostic analysis of winter PM2.5 pollution in the North China Plain: the impacts of regional transport and atmospheric boundary layer variation

P181 | Jie Yang
Analysis of Distribution Characteristics of Air Pollutants in China during 2015-2019

P182 | Ewa Łupikasza
Probability of air temperature inversions in Gornoslasko-Zaglebiowska Metropolis on the background of weather conditions

P183 | Yujie Cai
Methane emissions from a landfill: Numerical analysis of flight experiment data

P184 | Hiroaki Terada
Source term estimation of atmospheric discharge during the Fukushima Daiichi Nuclear Power Station accident by Bayesian inversion with multi-scale dispersion simulations

P185 | Kiyotaka Shibata
Effects of increase in vertical resolution of a chemistry-climate model on the ozone semi-annual oscillation in the tropical upper stratosphere

P186 | Domingo Rasilla
A climatological analysis of CAPs over the southern Spanish Meseta

P187 | Andrew Fominykh
Adsorption of trace atmospheric gases by dust aerosol particles emitted from arid source areas

P188 | Leena Järvi
High-resolution urban air quality modelling using PALM 6.0

P189 | Leena Järvi
Spatial variability of local-scale CO_2 emissions in Helsinki

P190 | Chune Shi
Comprehensive analysis on characteristics and mechanisms of transboundary air pollution in a persistent heavy PM2.5 pollution episode in central east China

END OF POSTER PROGRAMME UP2.2

UP3.1 Climate change detection, assessment of trends, variability and extremes

Convener: Martine Rebetez
Co-conveners: Simona Fratianni; Albert M.G. Klein Tank; Monika Lakatos
Poster pitches: Tue, 15:45, Oticon Hall

P125 | Tianbao Zhao
Quantifying the contributions of anthropogenic and natural forcings to climate changes over global land during 1946-2005

P126 | Uwe Pfeifroth
CM SAF Data & Tools for Climate Services

P127 | Masamichi Ohba
Spatially heterogeneous impact of global warming on heavy wet snowfall

P128 | Ondrej Lhotka
Links between increasing drought severity and atmospheric circulation over Central Europe

P129 | Liliya Bocheva
Climate Analysis of Snow Parametars in Bulgarian Part of Rhodopa Mountains (1961-2018)

P130 | Cornelia Schwierz
Inter-annual variability and trends of the rainy season in the Altiplano region in Peru

P131 | Javier Portero
Trend Analysis of extreme temperature events over the Iberian Peninsula

P132 | Ewa Łupikasza
Trends in liquid, solid and mixed precipitation indices in Poland on the background of current climate change

P133 | Ladislav Markovič
Some aspects of changes in number of warmer-than-normal months in climatic conditions of Slovakia

P134 | Wenping He
Can kurtosis be an early warning signal for abrupt climate change?

P135 | Andrei Nita
Evaluation of climatic trends in Romania linked with atmospheric circulation types constructed with different reanalysis datasets

P136 | Monika Lakatos
Detecting changes in hourly precipitation extremes in Hungary

P137 | Emilio Romero
Wind speed changes in the Iberian Peninsula under different climate change scenarios

P138 | Gianna Kitsara
Future changes in climatic indices over the Aegean area; potential micro-climate changes in Andros after land use modifications

P139 | Marius-Victor Birsan
Changes in monthly wind speed in Romania from observational data (1961-2018)

P140 | Agnieszka Sulikowska
Defining cold extremes: methodological peculiarities and their impact on the research results

P142 | Alba Llabrés-Brustenga
Observed trends and changes in Extreme Climate Indices over the Pyrenees (1959-2015)

P143 | Reshmita Nath
Future projection of extreme Hot and Wet events over Huang He, Yangtze and Mekong river basins under RCP8.5 scenario

P144 | Cristina Andrade
Climate change projections for the Iberian Peninsula bioclimatic classification

P145 | Uwe Pfeifroth
Validation and climate analysis of satellite-based and reanalysis data records of surface solar radiation

P146 | Camille Li
European climate change under 1.5 and 2.0 °C warming in a multi-model large ensemble

END OF POSTER PROGRAMME UP3.1

UP3.5 Climate modelling

Convener: Stefan Sobolowski
Co-conveners: Bodo Ahrens; Barbara Chimani
Poster pitches: Tue, 15:30, room S1

P147 | Ole Bøssing Christensen
From PRUDENCE and ENSEMBLES to Euro-CORDEX. What's the difference?

P148 | Emmihenna Jääskeläinen
The effect of existence of snow at forest floor on boreal forest albedo diurnal variation

P149 | Joong-Bae Ahn
1 Month-Lead Predictability of Asian Summer Monsoon Indices Based on the Zonal Winds using APCC Multi-model Ensemble

P150 | Yaohui Li
Simulation of surface temperature in China with a new generation of land surface model CLM4.5

P151 | Yulong Ren
Numerical Simulation of the Influence Mechanism of Land Surface Aridification in East Asian Summer Monsoon Transition Region on Monsoon Precipitation in the Region

P152 | Antonello A. Squintu
Comparing the new homogenized E-OBS for temperature with high resolution PRIMAVERA climate simulations.

P153 | Marie Pontoppidan
Large-scale model biases in the extratropical North Atlantic storm track and impacts on downstream precipitation

P154 | Shiquan Wan
Research on climate prediction method based on memory kernel function using multiple initial values

P155 | Stefan Sobolowski
Future precipitation changes over the Alpine region in a multi-model convection-permitting ensemble: a first look

P156 | Petter Lind
Validation of the snow climate in a regional climate model at 3 km grid spacing over Scandinavia

P157 | Matilde García-Valdecasas Ojeda
Assessing the Impact of Soil Moisture Initialization on Detecting Extreme Temperatures using a Regional Climate Model over the Iberian Peninsula

P158 | Juan José Rosa Cánovas
On the sensitivity of soil moisture behaviour to soil initial conditions over the Iberian Peninsula using a regional climate model

P159 | Patricio Yeste Donaire
Impact of Climate Change on Water Resources in the Duero River Basin

P160 | Emma Dybro Thomassen
Spatio-temporal characteristics of extreme precipitation from RCMs and NWPs on different scales

P161 | Stina Olandersson
Internal variability and biases and in the representation of tilt, strength and position of the North Atlantic jet stream in CMIP5 models

P162 | Dragan Latinovic
Development and evaluation of high-resolution version of Global Eta Framework (GEF) model

P163 | Jelena Maksic
Simulations of potential vegetation in areas of environmental protection in South America in response to future scenarios of climate change from IPCC CMIP5 with the CPTEC-PVM2 model

P165 | Srivatsan Raghavan
Potentials and Challenges under high resolution climate modelling - A Singapore case study

END OF POSTER PROGRAMME UP3.5

Thursday, 09:00–09:30

09:00–09:30

Keynote Lecture on Understanding Weather & Climate Processes (UP)

ECMWF activities for improving polar prediction
By Linus Magnusson, ECMWF, Senior Scientist Forecast Department

The following refreshment break is sponsored by UKi Media & Events

Thursday, 09:30–10:30

Poster session & refreshment break:
For details of the poster programme see page 100–107

Thursday, 10:30–12:30

ES3.1 Education and training: at schools, for the public, for stakeholders and professionals

Lecture room: S4
Convener: Tomas Halenka
Co-convener: Heikki Tuomenvirta

10:30–10:45 | Michael Passow
Over 25 Years of Classroom Teacher Enrichment by the American Meteorological Society

10:45–11:00 | Martin Stendel
Polar Portal: providing up-to-date information for science instruction in Danish primary and secondary schools

11:00–11:15 | Ioannis Koletsis
Educational programs about meteorology and climate for students of Junior High and High Schools in Greece

11:15–11:30 | Valentina Grasso
Atmosphere, chaos theory and the Weather Game: an outreach activity to discuss uncertainty in weather forecasts

11:30–11:45 | Mark A. Liniger
Current practice of forecast training at MeteoSwiss and lessons learned so far

11:45–12:00 | Stefanie Gubler
Successes and lessons learned during the implementation of blended learning at the regional training center in Peru

12:00–12:15 | Michael Passow
Understanding the US Next Generation Science Standards (NGSS)–Anything in Them for Europe?

12:15–12:30 | Antti Mäkelä
Developing nature-based solutions together with citizens

END OF ORAL PROGRAMME ES3.1

OSA3.3 Climate Applications of satellite data

Lecture room: Glass Hall
Conveners: Federico Fierli; Christine Traeger-Chatterjee
Co-conveners: Seppo Hassinen; Uwe Pfeifroth

10:30–11:00 | Reto Stöckli
How to foster the application of Satellite Climatology within national Climate Services? (solicited)

11:00–11:15 | Marie Doutriaux-Boucher
Climate data record of IASI temperature and humidity from Metop-A and B (solicited)

11:15–11:45 | Célia Gouveia
Assessing the conditions before during and after fire events over Mediterranean region using LSA-SAF Climate Data Records from SEVIRI-MSG (solicited)

11:45–12:00 | Luca Brocca
Operational services of satellite soil moisture products for flood, landslide, drought and precipitation (solicited)

12:00–12:15 | Felix Dietzsch
The HOAPS-4.0 dataset: Features and Applications (solicited)

12:15–12:30: Poster pitches

END OF ORAL PROGRAMME OSA3.3

OSA3.4 The Copernicus Climate Change Service

Lecture room: S9
Conveners: Carlo Buontempo; Dick Dee; Jean-Noel Thepaut; Freja Vamborg

10:30–10:45: Introduction

10:45–11:15 | Francisco J. Doblas-Reyes
Evaluation and Quality Control Function of the Copernicus Climate Change Service (solicited)

11:15–11:45 | Adam Scaife
Seasonal prediction of the North Atlantic Oscillation and European winters (solicited)

11:45–12:00 | Peter Salamon
Linking the Copernicus emergency management and climate change services (solicited)

12:00–12:15 | José Ramón Picatoste
Enhancing the links between the Climate-ADAPT and the Copernicus Climate Change Service (solicited)

12:15–12:30: Poster pitches

END OF ORAL PROGRAMME OSA3.4

UP1.1 Atmospheric dynamics and predictability

Lecture room: Oticon Hall
Convener: Sebastian Schemm
Co-conveners: Christian M. Grams; Alessandro Dell'Aquila; Michael Riemer

10:30–10:45 | Kristian Strommen
Signal and noise in regime systems: a hypothesis on the predictability of the NAO

10:45–11:00 | Toshihiko Hirooka
Downward Propagation of Planetary Wave Packets from the Stratosphere to the Troposphere During the Northern Hemisphere Winter

11:00–11:15
Abstract withdrawn

11:15–11:30 | Koki Iwao
Interactions between planetary waves and mean circulations in the middle atmosphere during the Northern Hemisphere winter

11:30–11:45 | Laura Ciasto
Relationships between the MJO and the Extratropical Stratospheric Circulation in the Subseasonal to Seasonal (S2S) Prediction Models

11:45–12:00 | Carmen Alvarez-Castro
Hammam effect: How a warm ocean might make weather forecasting easier

12:00–12:15 | Stefan Sobolowski
Investigating physical drivers and dynamics of midlatitude circulation biases in climate reanalysis ensembles

12:15–12:30 | Fei Zheng
Ocean-atmosphere coupled Pacific Decadal variability simulated by a climate model

ORAL PROGRAMME UP1.1 CONTINUES ON THURSDAY, 13:30

UP1.6 High-resolution precipitation monitoring and statistical analysis for hydrological and climate-related applications

Lecture room: S1
Conveners: Miloslav Müller; Tanja Winterrath
Co-conveners: Andreas Becker; Elsa Cattani; Auguste Gires; Katharina Lengfeld; Aart Overeem; Marie-Claire ten Veldhuis; Massimiliano Zappa; Markus Ziese

Extreme Precipitation

10:30–10:45 | Insa Otte
MUNSTAR - Methodical investigation concerning the revision of heavy rainfall statistics for Germany

10:45–11:00 | Miloslav Müller
Evaluation of extreme precipitation events at the sub-daily scale

11:00–11:15 | Tanja Winterrath
Object-based extreme precipitation climate monitoring and statistics

Commercial Microwave Links

11:15–11:30 | Adam Eshel
Comparative Study of IDW-based Algorithms for 2-D Rain Mapping Using CMLs

11:30–11:45 | J. Olsson
Observation, evaluation and application of rainfall from microwave link networks in Sweden

11:45–12:00 | Martin Fencl
Convective cell tracking using commercial microwave link rainfall observations with sub-minute temporal resolution

Measuring and Monitoring

12:00–12:15 | Laurent Delobbe
Heavy rainfall estimates from underground gravity measurements

12:15–12:30 | Anna-Maria Tilg
Comparison of measured raindrop size distributions in Denmark

END OF ORAL PROGRAMME UP1.6

UP2.5 The interconnection between the sun, space weather and the atmosphere

Lecture room: M1
Convener: Mauro Messerotti
Co-conveners: David R. Jackson; Suzy Bingham; Henrik Svensmark

10:30–10:45 | Nir Shaviv
The Sun, The Milky Way and Climate on Earth

10:45–11:00 | Therese Moretto Jorgensen
Small Satellites for Space Weather Research and Monitoring

11:00–11:15 | Raisa Leussu
NOSWE - The Norwegian Centre for Space Weather

11:15–11:30: Discussion

11:30–11:45 | Kalevi Mursula
Modulation of the Northern Polar Vortex by Particle Precipitation, QBO Phase and Sudden Stratospheric Warmings

11:45–12:00 | Ville Maliniemi
Winds of winter: Assessing high latitudinal winter response to energetic electron precipitation

12:00–12:15 | Martin Bødker Enghoff
Solar influences on aerosol processes

12:15–12:30 | Yuhji Kuroda
Solar cycle influence on the North Atlantic Oscillation

END OF ORAL PROGRAMME UP2.5

EMS Annual Meeting 2020

European Conference for Applied Meteorology and Climatology

7 - 11 September 2020

University of Economics, Bratislava, Slovakia

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Thursday, 13:30–15:30

OSA2.4 Atmospheric effects on humans

Lecture room: M1
Conveners: Andreas Matzarakis; Tanja Cegnar
Co-conveners: Fiorella Acquaotta; Sorin Cheval

13:30–13:45 | Andreas Matzarakis
Appropriate thermal indices and micro scale models for applications

13:45–14:00 | Oded Potchter
Advocating Human Thermal Perception Assessment Codes for Bio-Meteorological Research

14:00–14:15 | Andre Santos Nouri
An appraisal into the interdisciplinary integration of thermo-physiological aspects in local urban design and decision making in an era of climate change (Tromp Foundation Travel Award)

14:15–14:30 | Pninit Cohen
The effect of background origin and gender on the thermal perceptions and adaptation in arid region, the case of Beer Sheva, Israel

14:30–14:45 | Yoo-Jun Kim
Analysis of environmental characteristics on urban road-surface and air temperatures in Seoul: A case study during heat wave days

14:45–15:00 | Moshe Mandelmilch
Analysis of the Urban Heat Island magnitude in the Desert City of Beer-Sheva, Israel, Using a Modified Local Climate Zone Classification (Tromp Foundation Travel Award)

15:00–15:15 | Dragan Milošević
Quantification of temporal changes of urban heat island intensity and cooling and heating rates in different local climate zones of mid-sized central European city (Tromp Foundation Travel Award)

15:15–15:30 | Adina-Eliza Croitoru
Historical and projected heat-related mortality in big cities of Romania

ORAL PROGRAMME OSA2.4 CONTINUES ON THURSDAY, 16:00

OSA3.2 Spatial climatology

Lecture room: Glass Hall
Convener: Ole Einar Tveito
Co-conveners: Mojca Dolinar; Christoph Frei

13:30–13:45: Poster pitches

13:45–14:00 | Line Båserud
Automatic spatial quality control of meteorological in-situ observations

14:00–14:15 | Martin Hynčica
Gridded versus station temperatures: different time evolution of relationships with atmospheric circulation

14:15–14:30 | Jan Keller
Spatial downscaling of reanalysis data for climate analysis with the analog ensemble method

14:30–14:45 | Cristian Lussana
seNorge_2018 observational gridded datasets over Norway

14:45–15:00 | Gerard van der Schrier
pan-European gridded dataset for global radiation

15:00–15:30 | Christoph Frei
How uncertainty distorts the climate of precipitation grids - And how one can avoid it (solicited)

END OF ORAL PROGRAMME OSA3.2

OSA3.5 Challenges in deriving actionable information from climate model ensembles

Lecture room: S9
Convener: Andreas Fischer
Co-conveners: Martin Widmann; Barbara Früh; Ivonne Anders; Rob van Dorland; Fai Fung

13:30–13:45 | Janette Bessembinder
Using climate models for national climate scenarios in Europe

13:45–14:00 | Silje Soerland
CH2018 - New climate scenarios for Switzerland: How to construct multi-model projections from ensembles of opportunity

14:00–14:15 | Torben Schmith
Future regional changes of extreme precipitation: What can we learn from inter-model cross-validation?

14:15–14:30 | Jonathan Spinoni
A CORDEX-based study on the links between droughts and climatological risk of desertification

14:30–14:45 | Astrid Kainz
CLARITY's climate services: Using EURO-CORDEX simulations and including dynamical-statistical downscaling to allocate current and future climate-related hazard patterns at different spatial scales

14:45–15:00 | Keith Dixon
Considering Climate Projection Uncertainties in the Science and Decision Realms

15:00–15:15 | Maurice Skelton
Unpacking the use of national climate scenarios in Switzerland

15:15–15:30 | Mary Kerdoncuff
New datasets and services for french DRIAS portal

END OF ORAL PROGRAMME OSA3.5

UP1.1 Atmospheric dynamics and predictability

Lecture room: Oticon Hall
Convener: Sebastian Schemm
Co-conveners: Christian M. Grams; Alessandro Dell'Aquila; Michael Riemer

13:30–13:45 | Linus Magnusson
Understanding medium-range forecast errors from a synoptic-dynamic perspective (solicited)

13:45–14:00
Abstract withdrawn

14:00–14:15 | Georgios Fragkoulidis
Seasonal variability and forecast biases of local Rossby wave properties and their role for temperature extremes (solicited)

14:15–14:30 | Zuowei Xie
Planetary and synoptic-scale dynamic control of extreme cold wave patterns over the United States

14:30–14:45 | Philipp Zschenderlein
Processes determining heat waves across different European climates

14:45–15:00 | Shifa Mathbout
Identification of drought events and their correlation with teleconnection patterns across the Mediterranean

15:00–15:15 | Helena Flocas
Development and evaluation of a scheme to identify cold fronts in the Mediterranean region on a climatological basis

15:15–15:30: Poster pitches

END OF ORAL PROGRAMME UP1.1

UP1.4 Towards a better understanding of wind gusts: observations, processes, predictions and verification

Lecture room: S4
Convener: Sabrina Wahl
Co-conveners: Martin Göber; Irene Suomi; Peter Sheridan; Akio Hansen

Introduction

13:30–13:45 | Irene Schicker
High-frequency ensemble gust predictions for surface sites and wind turbines using machine learning and data mining techniques

13:45–14:00 | Alain Ulazia
Wind short-term hourly forecasts at different locations in the Basque Country (Spain)

14:00–14:15 | Julian Steinheuer
Vertical profiles of wind gust statistics from a regional reanalysis using multivariate extreme value theory

14:15–14:30 | Ying Li
Characteristics of Low-Level Wind Fields Associated with Tropical Cyclones over Hainan Island Region of China

14:30–14:45 | Lorenzo Minola
Near-surface wind speed and gust in ERA5 across Sweden: towards an improved gust parametrization

14:45–15:00 | David Walshaw
Spatially coherent return level estimation for gusts in the UK

15:00–15:05: Poster pitches

END OF ORAL PROGRAMME UP1.4

UP2.7 European Regional Hydroclimate Projects helping understand water cycle processes and drivers

Lecture room: S1
Convener: Joan Cuxart
Co-conveners: Monika Lakatos; Jan Polcher; Anna Rutgersson

13:30–13:45 | Anna Rutgersson
Baltic Earth, Earth System Science for the Baltic Sea region

13:45–14:00 | Arsène Druel
Implementation of a new irrigation scheme in the ISBA Land Surface Model

14:00–14:15 | Emiliano Gelati
Assessing irrigation sustainability in the Euro-Mediterranean region with an integrated agro-hydrologic model

14:15–14:30 | Branislava Lalić
Seasonality of tendency Bowen ratio in Vojvodina (Northern Serbia) orchards

14:30–14:45 | Tamás Weidinger
Micrometeorological measurements and SVAT model applications in Zagreb vineyard

14:45–15:00 | Samira Khodayar
Towards advances in modelling of extreme precipitation by the synergetic use of convection-permitting simulations and state-of-the-art observations

15:00–15:15 | Lilla Hoffmann
Comparison of different drought indices based on modeled crop yield for Hungary

15:15–15:30: Poster pitches

END OF ORAL PROGRAMME UP2.7

Thursday, 16:00–18:00

ES1.6 Creating national and regional climate services in Europe through partnerships

Lecture room: S9
Convener: Carlo Buontempo
Co-convener: Francisco J. Doblas-Reyes

16:00–16:15: Introduction

16:15–16:30 | Hans Olav Hygen
The Norwegian centre for climate services - 10 years of success, challenges and pitfalls

16:30–16:45 | Jelmer Jeuring
Toward valuable weather and sea ice services for the marine Arctic: exploring metservice perspectives on the user-producer interface

16:45–17:00 | Hanne Heiberg
Providing climate services on the web for Norway and Svalbard

17:00–17:15 | Andrea Vajda
Development of seasonal climate indices for agriculture in Finland

17:15–17:30 | Andreas Fischer
Communicating Climate Change Scenarios to Users: Lessons learnt from the CH2018 Initiative

17:30–17:45 | Keith Lambkin
Developing National Climate Services in Ireland

Poster pitches

17:45–18:00 | Adriaan Perrels
Ex-ante valorisation of climate services

END OF ORAL PROGRAMME ES1.6

OSA2.4 Atmospheric effects on humans

Lecture room: M1
Conveners: Andreas Matzarakis; Tanja Cegnar
Co-conveners: Fiorella Acquaotta; Sorin Cheval

16:00–16:15 | Ales Urban
Evaluation of the ERA5-based UTCI on mortality data in Europe

16:15–16:30 | Panagiotis Nastos
Evaluation of human thermal sensation in a green-urban area of Athens, Greece. Modeling against mobile measurements.

16:30–16:45 | Jan Geletic
Biometeorological modelling of historical centre of Prague city, Czech Republic

16:45–17:00 | Mikhail Varentsov
Local and non-local drivers shaping the Moscow megacity heat island: a study based on the dense official and crowdsourced urban temperature observations

17:00–17:15 | Akos Nemeth
Tourism Climatological Research and Service Development at the Hungarian Meteorological Service

17:15–17:30 | Ilona Potocka
The impact of biometeorological conditions on the landscape perception

17:30–17:45 | Sorin Cheval
The thermal perception of military students in an urban environment

17:45–18:00 | Claire Thomas
Quality assessment of several methods to estimate Ultra-Violet from satellite imagery at two ground stations in Uruguay and France

END OF ORAL PROGRAMME OSA2.4

OSA3.1 Climate monitoring: data rescue, management, quality and homogenization

Lecture room: Glass Hall
Convener: Manola Brunet-India
Co-conveners: Victor Venema; Dan Hollis; John Kennedy

16:00–16:15 | Carla Mateus
Strategies for climate data rescue: a service learning approach

16:15–16:30 | Alice Baronetti
A quality control approach to better characterise the spatial distribution of snow depth over New Brunswick, Canada

16:30–16:45 | Tufa Dinku
The ENACTS Approach: Overcoming Challenges with Availability and Quality of Climate Data and Information in Africa

16:45–17:00 | Marc J. Prohom
Exploring the impact of changes in observation times on the homogeneity of temperature series: rainfall day vs. calendar day

17:00–17:15 | Peter Domonkos
Towards more accurate homogenization of climatic time series

17:15–17:30 | Victor Venema
Relative statistical homogenization of observational networks with a low signal to noise ratio

17:30–17:45 | Gerard van der Schrier
EUSTUSTACE - New global daily temperature dataset for all surfaces of earth since 1850

17:45–18:00 | Ole Einar Tveito
ClimNorm - a spatio-temporal approach to support the calculation of new standards climatological normal in the Nordic region

END OF ORAL PROGRAMME OSA3.1

UP1.2 Atmospheric boundary-layer processes and turbulence

Lecture room: Oticon Hall
Conveners: Sergej Zilitinkevich; Gert-Jan Steeneveld
Co-convener: Bert Holtslag

16:00–16:30 | Anton Beljaars
Grey zone issues in boundary layer parametrization (solicited)

16:30–16:45 | Sergej Zilitinkevich
Revision of conventional theory of unstably stratified turbulence

16:45–17:00 | Omar Elguernaoui
Height dependence of turbulence decay during the evening transition of the convective boundary layer

17:00–17:15 | Steven van der Linden
Intermittent Bursting of the Wintertime Antarctic Boundary Layer

17:15–17:30 | Jonathan Izett
The Observed Spatio-Temporal Variability of Dutch Fog

17:30–17:45 | Ebba Dellwik
How does a single tree affect the roughness of a landscape: Results from a Single Tree Experiment

17:45–18:00 | Mark Kelly
Complex terrain: from spectra and form drag to effective roughness and flow simulation

ORAL PROGRAMME UP1.2 CONTINUES ON FRIDAY, 09:00

UP2.3 Cloud-aerosol-radiation interactions

Lecture room: S4
Convener: Emily Gleeson
Co-convener: Kristian Pagh Nielsen

16:00–16:30 | Laura Rontu
Cloud and aerosol properties in NWP models from a radiation point of view (solicited)

16:30–16:45 | Kristian Pagh Nielsen
Assessing the sources of uncertainty in the radiative forcing in atmospheric models

16:45–17:00 | Yu Xie
Advancing Radiative Transfer Models for Solar Energy Applications

17:00–17:15 | Johannes Schwenkel
Demystifying fog microphysics: A high-resolution Large-Eddy Simulation study with coupled particle based microphysics

17:15–17:30 | Karl-Ivar Ivarsson
The effect of using real-time versus climatological aerosols in the HARMONIE-AROME NWP model

17:30–17:45 | Kevin Ohneiser
Relationships between Aerosol Properties and Characteristics of Supercooled Clouds on the Atlantic Ocean using Ship-borne Lidar

17:45–18:00 | Emily Gleeson
The MUSC Single Column Model

END OF ORAL PROGRAMME UP2.3

UP3.4 Paleoclimatology and historical climatology

Lecture room: S1
Convener: Rudolf Brazdil
Co-conveners: Ricardo García-Herrera; Fidel González-Rouco

16:00–16:15 | Takehiko Mikami
Newly discovered long-term freezing/breaking-up dates record of Lake Juhsan in Northern Japan during 1705-1860 as compared with those of Lake Suwa

16:15–16:30 | Mika Ichino
Fluctuations of global solar radiation in Japan from 1821 to 1850 including the severe Tempo famine as estimated from historical weather records

16:30–16:45 | Junpei Hirano
Reconstruction of typhoon tracks affected Kyushu, western Japan in 1828.

16:45–17:00 | Kieran Hickey
The Weather and Tidal Data of the Clare Slobland Reclamation Company 1885-1887

17:00–17:15 | Luís Pedro Silva
Droughts and floods in the Northwest of Portugal, in the 18th Century: vulnerability and socio-economic impacts

17:15–17:30 | Rudolf Brazdil
European droughts derived from documentary data

17:30–17:45 | Conor Murphy
Wetter winters and drier summers in England and Wales precipitation explained by observational and sampling bias in early records.

17:45–18:00 | Eugene Rozanov
Which climate drivers are responsible for the climate warming during early 20th century?

Poster pitches

END OF ORAL PROGRAMME UP3.4

Posters Thursday, 09:30–10:30

ES2.1 Communication and media

Convener: Tanja Cegnar
Poster pitch: Wed, 17:00, Glass Hall

P12 | Anders Doksæter Sivle
Værpodden: A podcast from MET Norway focusing on weather and outdoor life

END OF POSTER PROGRAMME ES2.1

OSA1.5 Data assimilation and use of observations in meteorology and oceanography

Conveners: Sarah Dance; Alexander Cress
Co-conveners: Guergana Guerova; Kasper S. Hintz; Jonathan Jones
Poster pitches: Wed, 12:15, room S9

P15 | Elżbieta Lasota
Raytracing Through Tropical Cyclone Meranti With GNSS and GFS/WRF/ERA (Young Scientist Travel Award)

P16 | Jonathan Jones
The GRUAN GNSS PWV Task Team

P17 | Tsvetelina Dimitrova
Combination of instability thermodynamic indices and integrated water vapor as new tool in the forecasting a thunderstorms development over Bulgaria

P18 | Guergana Guerova
BalkanMed real time severe weather service: progress and prospects in Bulgaria

P19 | Milana Vuckovic
Delivering ECMWF Data and Services via the Cloud within HiDALGO

P20 | Huinae Kwon
Analysis of aircraft temperature bias characteristics by flight IDs and phases at KIAPS

P21 | James Hawkes
Weather & Climate Data API for the Convergence of HPC and Cloud Workflows In LEXIS

P22 | Conor Lally
A Geo-Temporal NoSQL Database for Atmospheric Observations Derived from Mode-S Data

P23 | Pieter Groenemeijer
Evaluating the use of temperature and humidity profiles from the IASI hyperspectral sounder for severe storm forecasting at the ESSL Testbed

END OF POSTER PROGRAMME OSA1.5

OSA1.7 Forecast verification

Conveners: Marion Mittermaier
Co-conveners: Manfred Dorninger, Anna Ghelli
Poster pitches: Wed, 17:45, room S9

P28 | Arūnas Bukantis
Validation of the CFSv2 Model Technologies for long range weather forecasts: Lithuania's Case

P29 | Stefanie Gubler
Seasonal prediction performance in South America

P30 | Seon-Ok Hong
Verification of urban wind profile from KMA-LDAPS using doppler wind lidar over Seoul Metropolitan Area

P31 | Hyeonjin Yoon
Predictability of global NWP model at KMA with respect to weather types for each season

P32 | Eun-Hee Lee
Verifications of the medium-range forecasts by the Korea Integrated Model

P33 | Juwon Lee
Assessment of Korean Integrated Model (KIM) quantitative precipitation forecasts

P34 | Petr Zacharov
A comparison of predictability of historical heavy precipitation events

END OF POSTER PROGRAMME OSA1.7

OSA3.5 Challenges in deriving actionable information from climate model ensembles

Convener: Andreas Fischer
Co-conveners: Martin Widmann; Barbara Früh; Ivonne Anders; Rob van Dorland; Fai Fung

P93 | Pedro M M Soares
Climate Change in Portugal: from high-resolution simulations to society

P94 | Martin Dubrovsky
Development of the Representative Climate Change Scenarios for Czechia

P95 | Heike Huebener
Narrowing the gap between climate and climate impact research

P96 | Andreas Fischer
The new Swiss climate change scenarios CH2018

P97 | Sven Kotlarski
The Alpine zero-degree line in a changing climate

P98 | Andreas Fischer
Heat stress in Switzerland: from climate projections to user-relevant information

P99 | Benedikt Knüsel
The Appropriate Level of Evidence in Climate Services

P100 | Lorenzo Sangelantoni
On the use of original and bias-corrected climate simulations in regional-scale hydrological scenarios

P101 | Petr Skalak
Sampling of the large climate model ensemble for climate change adaptation strategies planning

P102 | Kirsti Jylhä
Projections for prolonged drought, rainy and heat periods in Finland: comparison between statistical downscaling methods

P103 | Mojca Dolinar
User tailored climate change projections for Slovenia

END OF POSTER PROGRAMME OSA3.5

UP1.3 Understanding and modelling of atmospheric hazards and severe weather phenomena

Conveners: Fulvio Stel; Arne Spekat
Co-conveners: Dario Giaiotti; Mario Marcello Miglietta; Sante Laviola; Jordi Mazon; Victoria Sinclair
Poster pitches: Wed, 10:30, room M1

Observations and climatology

P129 | Feimei Yao
Observed Characteristics Change of Tropical Cyclones during Rapid Intensification over Western North Pacific Using CloudSat Data

P130 | Yixuan Shou
Statistical characteristics of the presummer extreme precipitation over Southern China as estimated by observations

P131 | Daniel Celiński-Mysław
The bow echo occurrence in the cool season over Poland.

P132 | Sabina Stefan
Study of Clear Air Turbulence Related to Tropopause Folding over Romanian Airspace

Heat fluxes and severe weather

P133 | Xiaofan Li
Cloud radiative effects on rainfall during the landfall of Typhoon Soudelor (2015)

P134 | Yufeng Dai
Seasonal contributions of a large lake on Tibetan Plateau to regional precipitation

Large scale circulation and severe weather

P135 | Ebony Lee
Analyses of a Polar Low Case in the East Coast of the Korean Peninsula using High-resolution WRF Model Simulation

P136 | Blanka Gvoždíková
The role of circulation anomalies in the emergence of extreme precipitation events in Central Europe

Sea and severe weather

P137 | Inchae na
Effect analysis of drag coefficient using KIM-Wave Watch 3(WW3) coupled system

P138 | Chung-Chieh Wang
A Modeling Study on the Influences of Sumatra Island and Synoptic Features on Tropical Cyclone Formation in the Indian Ocean

P139 | Costas Douvis
Thermodynamic structure of medicanes against hurricanes

P140 | M. Angeles Picornell
Real-time Mediterranean cyclone prediction from NWP models

P141 | Taru Olsson
Detecting sea-effect snowfalls on Finnish coastlines

Case studies

P142 | Xiaoyuan Yi
Multiscale configuration of the 20 July 2016 cyclone induced severe torrential rain and its relationship with the development of MyCS

P143 | Santiago Gaztelumendi
A study of the 6 January 2018 snow event in the Basque country.

P144 | Santiago Gaztelumendi
Analysis of a squall line event in the Basque Country: the 6 March 2019 case

P145 | Marko Zoldoš
The interaction of a cold front with a widespread low stratus and fog in the Zagreb region in December 2015: a case study

P146 | Dominic Matte
A pseudo-warming study of a deep moist convection: the Copenhagen case of July 2011

Numerical modeling

P147 | Inna Gubenko
An efficiency of lightning data assimilation for the convection forecast over Krasnodar region of Russia

P148 | Xiaofan Li
Sensitivity of WRF model simulations to parameterizations of depositional growth of ice crystal during the landfall of Typhoon Fitow (2013)

P149 | Maja Telisman Prtenjak
Analysis of modeled hail parameters obtained by numerical mesoscale WRF-HAILCAST model

P150 | Sojung Park
Optimization of Multiple Physics Schemes in WRF Using the Micro-Genetic Algorithm for Quantitative Precipitation Forecast for Both the Combined Rain and Snow Precipitation Event in Korea

Historical records

P151 | Fulvio Stel
Global temperature trends and local historical events: impression or connection?

P152 | Jie Cao
Classification of Persistent Summer Extreme Heavy Rainfall Events in North China During Recent 40 Years

P153 | Laura Zubiate
A Historical European Windstorm Database from 1900 to 1940. The Windsurfer project

END OF POSTER PROGRAMME UP1.3

UP1.6 High-resolution precipitation monitoring and statistical analysis for hydrological and climate-related applications

Conveners: Miloslav Müller; Tanja Winterrath
Co-conveners: Andreas Becker; Elsa Cattani; Auguste Gires; Katharina Lengfeld; Aart Overeem; Marie-Claire ten Veldhuis; Massimiliano Zappa; Markus Ziese
Poster pitches: Wed, 17:45, Oticon Hall

P157 | Massimiliano Zappa
A flash flood forecasting system based on high-resolution ensemble precipitation nowcasting

P158 | Anna Valeriánová
Sub-daily precipitation intensity: Comparison of statistics based on regular measurement and running time intervals

END OF POSTER PROGRAMME UP1.6

UP2.5 The interconnection between the sun, space weather and the atmosphere

Convener: Mauro Messerotti
Co-conveners: David R. Jackson; Suzy Bingham; Henrik Svensmark

P201 | David R. Jackson
Four Year Plan for WMO Space Weather Activities 2020-2023

END OF POSTER PROGRAMME UP2.5

UP2.6 Exploring the interfaces between meteorology and hydrology

Conveners: Timothy Hewson; Conor Murphy; Fatima Pillosu
Poster pitches: Wed, 15:30, Oticon Hall

P202 | Amelie Krug
Water vapour source regions of extreme flood events in Central Europe

P204 | Fatima Pillosu
Global Medium Range Flash Flood Forecasts using "ecPoint-Rainfall" (A Statistical Post-Processing System for Probabilistic Rainfall Forecasts at Point-Scale)

P205 | Santiago Gaztelumendi
Exploring operational numerical weather models capabilities for hydrological applications in Basque Country

P206 | Francesca Viterbo
Distributed Hydro Meteorological modelling in complex topography areas of the USA: a physical process study at the catchment scale using the National Water Model

P207 | Paul O'Connor
Evaluating catchment responses to drought and flood using gridded and rescued datasets

END OF POSTER PROGRAMME UP2.6

UP2.7 European Regional Hydroclimate Projects helping understand water cycle processes and drivers

Convener: Joan Cuxart
Co-conveners: Monika Lakatos; Jan Polcher; Anna Rutgersson
Poster pitches: Thu, 15:15, S1

P208 | Joan Cuxart
Influence of topography in the Atmospheric Boundary Layer of the Pannonian Basin.

P209 | Piia Post
Changes in satellite-based cloudiness in the Baltic Sea region during spring and summer 1982 - 2015

P210 | Monika Lakatos
Improving the estimation of the daily potential evapotranspiration in the region of PannEx RHP based on CarpatClim observational dataset

P211 | Joan Cuxart
Characterization of weak-wind and clear-sky nights that contribute to the chilling hours

P212 | Balázs Szintai
Improving the representation of Leaf Area Index in a numerical weather prediction model

P213 | Joan Cuxart
Land Surface Interactions with the Atmosphere over the Iberian Semi-Arid Environment (LIAISE): Field campaign overview

P214 | Rita Pongrácz
Projections of hydroclimatic conditions using an ensemble of regional climate model simulations for the Pannonian region - a comparison of the plain area in Hungary and Serbia

END OF POSTER PROGRAMME UP2.7

UP3.2 Mid-latitude atmospheric teleconnection dynamics

Convener: Javier Garcia-Serrano
Co-conveners: Paolo Davini; Yannick Peings

P165 | Fei Zheng
Influence of the Spring and Summer NAO on the East Asian Summer Monsoon

P166 | Xiaojing Jia
Changes of the Impact of Autumn Tibet Plateau Snow Cover on Winter Temperature over North America at mid-1990s

P167 | Zhiwei Wu
Weak El Niño and Winter Climate in the mid-high latitude Eurasia

P168 | Lucie Pokorna
Annual cycle of the atmospheric circulation modes over the Euro-Atlantic sector with emphasis on warm months

P169 | Froila M. Palmeiro
Sudden stratospheric warming variability in EC-EARTH and its modulation by ENSO and the PDO

P170 | Andrea Böhnisch
Natural Variability in Nested Climate Models: The North Atlantic Oscillation and its Implications on Central European Climate Patterns

P171 | Xiaowei Hong
Differences in the Silk Road Pattern and Its Relationship to the North Atlantic Oscillation between Early and Late Summers

P172 | Laura Ciasto
Understanding the role of the extratropical stratospheric circulation in subseasonal prediction of temperature within a multiple linear regression framework

P173 | Jorge Lopez Parages
ENSO influence on summer extremes of temperature and rainfall in Western Europe

P174 | Ivana Herceg Bulic
Is it possible to distinguish an ENSO-related signal from NAO in European climate anomalies?

END OF POSTER PROGRAMME UP3.2

UP3.7 Analysis and predictions of tropical cyclones from subseasonal to decadal time scales

Convener: Yuhei Takaya
Co-conveners: Louis-Philippe Caron; Philip Klotzbach
Poster pitches: Wed, 18:00, M1

P193 | Hongming Yan
Relationship between storm activity and summer monsoon onset in Bay of Bengal basin and possible precursor signals

P194 | Da Zhang
Interdecadal Changes of Characteristics of Tropical Cyclone Rapid Intensification over Western North Pacific

P195 | Xiangbo Feng
Seasonal forecasting of western North Pacific tropical cyclones: relationship to teleconnections

P196 | Jianyun Gao
Impact of the Intraseasonal Oscillation on Tropical Cyclone Genesis over the Western North Pacific

P197 | Ruiqiang Ding
Predictability of Tropical Cyclone Intensity over the Western North Pacific using the IBTrACS Dataset

P198 | Louis-Philippe Caron
www.seasonalhurricanepredictions.org

P199 | Masuo Nakano
Impact of model biases in the ISV on TC forecasting in the S2S models

END OF POSTER PROGRAMME UP3.7

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Advances in Science & Research

Contributions in Applied Meteorology and Climatology

Managing Editor | Martina Junge

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Deadline for submissions: 15 January 2020

Authors of contributions that have been accepted to one of the EMS Annual Meeting 2019 session topics are invited to submit short conference papers. Details will be sent to the authors by email after the conference.

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Friday, 09:00–10:30

ES1.4 From hazards to impacts: understanding the mechanisms behind single and compound climate events

Lecture room: M1
Convener: Martin Drews
Co-conveners: Hilppa Gregow; Bart van den Hurk; Jakob Zscheischler

09:00–09:15 | Oliver Halliday
Understanding the risk from correlated windstorms and floods in the UK

09:15–09:30 | Morten Andreas Dahl Larsen
Compound events and pressures in coupled catchment and storm surge modelling

09:30–09:45 | Lidia Gaslikova
Extreme storm tides in the North Sea and their consequences in the Ems estuary.

09:45–10:00 | Elin Andrée
Effects of periodic forcing anomalies on storm surge prediction in the North Sea-Baltic Sea transition zone

10:00–10:15 | Florian Willkofer
Assessing the development of flood extremes in a changing climate

10:15–10:30: Poster pitches

END OF ORAL PROGRAMME ES1.4

ES1.6 Creating national and regional climate services in Europe through partnerships

Lecture room: S9
Convener: Carlo Buontempo
Co-convener: Francisco J. Doblas-Reyes

09:00–09:15 | Antti Mäkelä
How can experience with users from various C3S contracts contribute to an all-embracing Climate Data Store

09:15–09:30 | Julia Lockwood
Engagement with the finance and insurance industry for the PRIMAVERA project: Analysis of European wind storms for catastrophe modelling

09:30–09:45 | Jan Verkade
HEPEX: a community of practice for the advancement of hydrologic ensemble predictions

09:45–10:00 | Rozemien De Troch
Modelling invasive alien species distributions: The need for high-resolution climate information

10:00–10:15 | Adriaan Perrels
How many partners does it take to get a demanded climate service working?

10:15–10:30: Open discussion

END OF ORAL PROGRAMME ES1.6

OSA1.6 Probabilistic and ensemble forecasting from short to seasonal time scales

Lecture room: S1
Convener: Andrea Montani
Co-conveners: Jan Barkmeijer; Fernando Prates

09:00–09:15 | Alfons Callado
AEMET-γSREPS: The Spanish Convection-permitting LAM-EPS

09:15–09:30 | Ken Mylne
MOGREPS-UK - 5-day Convection-permitting ensemble forecasts for the UK

09:30–09:45 | Carlos Andres Peralta Aros
Accounting for temporal phase errors in the verification of surface parameters with the HARMONIE-AROME model

09:45–10:00 | Andrea Montani
Performance of ECMWF- and COSMO-based ensemble forecast systems for precipitation events over Italy

10:00–10:15 | Iris Odak Plenkovic
Ensemble post-processing with an analog-based approach

10:15–10:30 | Noémie Le Carrer
A possibilistic interpretation of ensemble predictions: experiments on the imperfect Lorenz 96 model

Poster pitches: 10:30 - 10:35

ORAL PROGRAMME OSA1.6 CONTINUES ON FRIDAY, 11:30

UP1.2 Atmospheric boundary-layer processes and turbulence

Lecture room: Oticon Hall
Conveners: Sergej Zilitinkevich; Gert-Jan Steeneveld
Co-convener: Bert Holtslag

09:00–09:15 | David Grawe
The influence of surface cover characterisation on meteorological model results for an urban area

09:15–09:30 | Aristofanis Tsiringakis
Surface and atmospheric driven sensitivity of the single-layer urban canopy model under clear sky conditions in London

09:30–09:45 | Moon-Soo Park
Sea-land-breeze circulation over the Seoul Metropolitan Area

09:45–10:00 | Marc Calaf
Surface thermal heterogeneities, dispersive fluxes and the conundrum of unaccounted statistical spatial inhomogeneities

10:00–10:15 | Katrin Frieda Gehrke
What is the Possible Error in Using Monin-Obukhov Similarity Theory for Parameterizing the Atmospheric Surface Layer?

10:15–10:30: Introduction to posters

ORAL PROGRAMME UP1.2 CONTINUES ON FRIDAY, 11:30

UP3.3 Synoptic climatology

Lecture room: Glass Hall
Conveners: Radan Huth; Rasmus Benestad

09:00–09:15 | Erica Madonna
Linking Euro-Atlantic blocking and North Atlantic eddy-driven jet variability

09:15–09:30 | Magdalena Mittermeier
Detecting the Dynamics of Heavy Precipitation Vb-Cyclones Under Climate Change Using Neural Networks (Young Scientist Travel Award)

09:30–09:45 | Hadas Saaroni
Structure of the rainy season in Israel and its relation with the occurrence and intensity of Cyprus lows

09:45–10:00 | Baruch Ziv
Automatic Identification and Classification of the Red-Sea Trough and its Application for Climatological Analysis

10:00–10:15 | Marco Reale
A global climatology of explosive cyclones using a multi tracking approach

10:15–10:30: Poster pitches

ORAL PROGRAMME UP3.3 CONTINUES ON FRIDAY, 11:30

Friday, 10:30–11:30

Poster session & refreshment break:
For details of the poster programme see page 115–123

Friday, 11:00–13:30

ES2.2 Communication of science

Lecture room: S9
Convener: Gerald Fleming
Co-conveners: Nina Kukkurainen; Jesper Theilgaard

11:30–11:45 | Bettina Steuri
Global warming of 1.5°C: What does this mean for the Hamburg metropolitan region?

11:45–12:00 | Elissavet Galanaki
Outreach activities on meteorology and climate developed by the meteo.gr team at the National Observatory of Athens.

12:00–12:15 | Sonja Veith
Climate Future Day 2020 at Leibniz Universität Hannover: concept and framework for bringing 200 children, 60 prospective teachers and science together

12:15–12:30 | Miloslav Müller
Meteorological terminology: international context and Czech experience

12:30–12:45 | Hadassa Hovestadt
Renewing traditional Finnish climate bulletin into a modern digital climate service

END OF ORAL PROGRAMME ES2.2

OSA1.4/ES1.5 Delivery and communication of impact forecasting and impact modelling of weather and natural hazard events (co-organized)

Lecture room: M1
Conveners: Adriaan Perrels; Joanne Robbins
Co-conveners: Tanja Cegnar; Haleh Kootval; Seungbum Kim

11:30–12:00 | Rainer Kaltenberger
Impact-oriented and Impact-based Warnings in European NMHSs

12:00–12:15 | Pieter Groenemeijer
EWOB: A standard for international exchange of weather and weather impact observations from crowd-sourcing

12:15–12:30 | Thomas Röösli
Towards operationalizing impact-oriented storm warnings using a natural catastrophe impact model

12:30–12:45 | David Degardin
Concept of Impact Based Forecasts for the Canadian Armed Forces

12:45–13:00 | Chris Lattimore
10 years of the Flood Forecasting Centre (England and Wales). From flood risk assessment to verification

13:00–13:30: Panel discussion: Can we sufficiently specify benefits of impacts based forecasting so as to enhance its uptake?

END OF ORAL PROGRAMME OSA1.4/ES1.5

OSA1.6 Probabilistic and ensemble forecasting from short to seasonal time scales

Lecture room: S1
Convener: Andrea Montani
Co-conveners: Jan Barkmeijer; Fernando Prates

11:30–11:45 | Christian M. Grams
Ensemble forecasts for the midlatitudes on sub-seasonal time scales (10-60 days): exploring new products for predicting Atlantic-European weather regimes

11:45–12:00 | Yuhei Takaya
Sub-seasonal to Seasonal Prediction Project: Science Plan of Phase 2

12:00–12:15 | Otto Hyvärinen
Exploring bias adjustment methods of seasonal forecasts for applications in Northern Europe

12:15–12:30 | Alejandro Hermoso
Tailored mesoscale ensemble forecasts: application to Western Mediterranean high impact weather

12:30–12:45 | Tobias Heppelmann
Representation of model error in ICON-EPS: A-priori simulation using a flow-dependent stochastic approach

12:45–13:00 | Xubin Zhang
Multiscale Characteristics of Multisource Perturbations and Their Interactions for Convection-Permitting Ensemble Forecasting during SCMREX

13:00–13:15 | Takuya Kawabata
What is the source of chaos in MCS?

13:15–13:30 | Lionel Moret
Towards operational postprocessing of probabilistic cloud cover forecasts at MeteoSwiss

END OF ORAL PROGRAMME OSA1.6

UP1.2 Atmospheric boundary-layer processes and turbulence

Lecture room: Oticon Hall
Conveners: Sergej Zilitinkevich; Gert-Jan Steeneveld
Co-convener: Bert Holtslag

11:30–11:45 | Matthias Zeeman
Multi-scale observation of velocity and temperature structures

11:45–12:00 | Francisco Lang
Shallow convection and precipitation over the Southern Ocean: A case study during the CAPRICORN field campaign

12:00–12:15 | Eric Skyllingstad
Simulations of marine boundary layer cold pools and their role in setting scales of deep tropical convection

12:15–12:30 | Vinko Šoljan
Micro-Scale Properties of Different Bora Types

END OF ORAL PROGRAMME UP1.2

UP3.3 Synoptic climatology

Lecture room: Glass Hall
Conveners: Radan Huth; Rasmus Benestad

11:30–12:00 | Piia Post
Changing impact of the large scale atmospheric circulation on the regional climate variability of the Baltic Sea over the period 1948-2018 (solicited)

12:00–12:15 | Vladimír Piskala
How do correlation maps capture the shift of Northern Hemisphere teleconnections during the 20th century?

12:15–12:30 | Jiri Miksovsky
Nonlinearity in global teleconnection patterns

12:30–12:45 | Cameron Lee
A global-scale gridded classification of multivariate surface weather types: the GWTC-2

12:45–13:00 | Ole Einar Tveito
Classifying extreme precipitation events and their associated synoptic patterns

13:00–13:15 | Paul James
Extended Grosswetterlagen: A new synoptic type classification for Central Europe accounting for both circulation and air mass characteristics

13:15–13:30 | María A. Pastor
High resolution climate change projections for the Pyrenees region

END OF ORAL PROGRAMME UP3.3

Posters Friday, 10:30–11:30

ES1.4 From hazards to impacts: understanding the mechanisms behind single and compound climate events

Convener: Martin Drews
Co-conveners: Hilppa Gregow; Bart van den Hurk; Jakob Zscheischler
Poster pitches: Fri, 10:15, M1

P1 | Eva Plavcová
High-impact winter compound events and their links to large-scale atmospheric circulation

P2 | Nadine Salzmann
If risks cumulate - Analysis and management of cumulative risks in Switzerland

P3 | Krasimir Stoev
Mediterranean cyclone and foehn in Sofia for the period 1975-2014

P4 | Ildikó Pieczka
Analysis of compound events in the Carpathian Basin with special focus on concurrently hot and dry conditions

P5 | Anna Rutgersson
Extreme events in the coastal zone - a multidisciplinary approach for better preparedness

P6 | Carmen Alvarez-Castro
Medicanes: tropical-like-cyclones in the Mediterranean Sea and their uncertain fate with climate change

END OF POSTER PROGRAMME ES1.4

ES1.6 Creating national and regional climate services in Europe through partnerships

Convener: Carlo Buontempo
Co-conveners: Francisco J. Doblas-Reyes
Poster pitches: Thu, 17:45, S9

P7 | Maria Hatzaki
Mapping fire danger impacts on the tourism sector of the Mediterranean islands blue economy under climate change

P8 | Giannis Lemesios
Future fire risk projections for south-eastern Europe in the framework of DISARM project

P9 | Marianne Sloth Madsen
The Danish Climate Atlas: How to communicate climate change information at the local level

P10 | Stephanie Mayer
Developing climate indices for nature-based tourism in Norway

P11 | Fabio Madonna
Access and harmonization of Baseline and Reference in-situ Observations within C3S

END OF POSTER PROGRAMME ES1.6

OSA1.4/ES1.5 Delivery and communication of impact forecasting and impact modelling of weather and natural hazard events (co-organized)

Conveners: Adriaan Perrels; Joanne Robbins
Co-conveners: Tanja Cegnar; Haleh Kootval; Seungbum Kim

P13 | Sang Hui Choi
Improve of Critical Exponent Formula for Heavy Rain Impact Weather

P14 | Suin Kim
Impact-based Forecast and Warning Services for swell disaster in coastal regions of North Gyeongsang Province, Republic of Korea

END OF POSTER PROGRAMME OSA1.4/ES1.5

OSA1.6 Probabilistic and ensemble forecasting from short to seasonal time scales

Convener: Andrea Montani
Co-conveners: Jan Barkmeijer; Fernando Prates
Poster pitches: Fri, 10:30, S1

P25 | Linna Zhao
BMA probability quantitative precipitation prediction of landing typhoon precipitation in Southeast China

P26 | Kaisa Ylinen
Spatial ensemble calibration using station-specific predictors

P27 | Lionel Moret
Towards operational post-processing of probabilistic temperature forecasts at MeteoSwiss

END OF POSTER PROGRAMME OSA1.6

OSA2.4 Atmospheric effects on humans

Conveners: Andreas Matzarakis; Tanja Cegnar
Co-conveners: Fiorella Acquaotta; Sorin Cheval

P37 | Pavel Konstantinov
Boundary layer inversions and human thermal comfort in Arctic cities (based on UHIARC measurements) (Tromp Foundation Travel Award)

P38 | Mohammad Taleghani
The impact of land cover on pedestrians' thermal comfort within a university campus (Tromp Foundation Travel Award)

P39 | Hye-mi Kang
Pilot Project of Impact-Based Forecast on Heavy Rainfall in Seoul Metropolitan Area, Republic of Korea

P40 | Stelios Maniatis
Human thermal sensation over a mountainous area. The case of Ainos Mt., Kefalonia Island, Greece

P41 | Martin Novak
The Biometeorological Forecast of the CHMI and daily mortality in the Czechia in 1996-2017

P42 | Akos Nemeth
Tourist Weather Preferences in Hungary

P43 | Banc Stefana
Tourism Climate Index analysis in Romania's big cities

P44 | Yung-Chang Chen
Comparisons of original and improved physiologically equivalent temperatures based on a thermal perception dataset in hot and humid region

P45 | Santiago Gaztelumendi
Synoptic characterization of daily air quality in Basque Country

P46 | Mikhail Varentsov
Intensive Urban Heat Island Research Campaign in the Arctic: the first results and application for model verification

P47 | Lidija Cvitan
Planning of tourism development in Mali Lošinj (Croatia)

P48 | Anastasia Perkhurova
Online modelling of thermal comfort conditions in campus of Moscow State University (Moscow, Russian Federation)

END OF POSTER PROGRAMME OSA2.4

OSA3.1 Climate monitoring: data rescue, management, quality and homogenization

Convener: Manola Brunet-India
Co-conveners: Victor Venema; Dan Hollis; John Kennedy

P49 | Souleymane Sy
Sensitivity of Radiosounding Temperature and Humidity Trends to Estimation Algorithms and Subsampling Effects (Young Scientist Travel Award)

P50 | Romain Ingels
Quality control and homogenization of the Belgian historical temperature data

P51 | Cedric Bertrand
Development of a new historical daily precipitation time series for Uccle

P52 | Stina Karlsson
Evaluation and trends of daily homogenized precipitation in Sweden

P53 | Barbara Chimani
Automatic homogenisation using HOMOP

P54 | Hela Irha
Cloud observations by ceilometer, radiosondes and by visual observations

P55 | Kairi Vint
Artificial changes in Estonian monthly air temperatures: break detection and homogenization with HOMER Software

P56 | Renato R. Colucci
117 years of near-surface sea temperature in the harbor of Trieste, Italy in the northern Adriatic Sea (1899-2015)

P57 | Erik Engström
Homogenisation of longterm daily temperature series in Sweden, method and trend evaluation

P58 | Victor Venema
Independent post-publication peer review in Grassroots Journals

END OF POSTER PROGRAMME OSA3.1

OSA3.2 Spatial climatology

Convener: Ole Einar Tveito
Co-conveners: Mojca Dolinar; Christoph Frei
Poster pitches: Thu, 13:30, Glass Hall

P60 | Michel Journée
Overview and validation of observational gridded data products for Belgium

P61 | Dan Hollis
HadUK-Grid. A new UK dataset of gridded climate observations

P62 | Neža Lokošek
Return values for snow load in Slovenia

P63 | Mojca Dolinar
Return levels of extreme rainfall smoothed in space and time interval

END OF POSTER PROGRAMME OSA3.2

OSA3.3 Climate Applications of satellite data

Conveners: Federico Fierli; Christine Traeger-Chatterjee
Co-conveners: Seppo Hassinen; Uwe Pfeifroth
Poster pitches: Thu, 12:15, Glass Hall

P71 | Toshihisa Itano
Satellite Observation of Floating Volcanic Ash Discharged at the 2011 Shinmoedake Eruption

P72 | Kent B. Lauritsen
The 17-Year ROM SAF Radio Occultation Climate Data Record

P73 | Marie Doutriaux-Boucher
Climate Data Records of Atmospheric Motion Vectors from EUMETSAT satellites

P74 | Uwe Pfeifroth
CM SAF Data & Tools for Climate Services

P75 | Felix Dietzsch
Climate Data Records and user service of the EUMETSAT Satellite Application Facility on Climate Monitoring

P76 | Derya Isik
Simulation of Urban Climate Using ANN in an Urban Growth Scenario

P77 | Irena Nimac
Validation of sunshine duration of the Surface Solar Radiation Data Set - Heliosat (SARAH-2.1) for Croatia

P78 | Mendy van der Vliet
The potential of satellite soil moisture for agricultural applications in emerging economies

P79 | Alexandru Dumitrescu
Statistical gap-filling of Land Surface Temperature timeseries over Romania

P80 | Halime Ödül
Climatic Importance of Natural Lakes as a Cool Island

END OF POSTER PROGRAMME OSA3.3

OSA3.4 The Copernicus Climate Change Service

Conveners: Carlo Buontempo; Dick Dee; Jean-Noel Thepaut; Freja Vamborg
Poster pitches: Thu, 12:15, S9

P82 | Semjon Schimanke
Copernicus regional reanalysis for Europe

P83 | Wilma Jans
Quality Assurance for the Climate Data Store

P84 | Fabio Madonna
Using reference radiosounding measurements to improve historical time series

P85 | Gerard van der Schrier
Developments in ECA&D and the E-OBS dataset

P86 | Anja Niedorf
Long-term satellite-based global precipitation products within the Copernicus Climate Data Store

P87 | Ruth Petrie
Climate Projections for the Copernicus Climate Data Store

P88 | Koen De Ridder
Copernicus Sectoral Information System for the Biodiversity Sector

P89 | Amanda Hall
Assessing and ensuring the quality of the Copernicus Climate Change Service Sectoral Information System

P90 | Christos Giannakopoulos
C3S European Tourism: Fire danger products

P91 | Julie Berckmans
A climate change service for health

P92 | Kristine S. Madsen
Sea level change: mapping municipality needs for climate information

END OF POSTER PROGRAMME OSA3.4

UP1.1 Atmospheric dynamics and predictability

Convener: Sebastian Schemm
Co-conveners: Christian M. Grams; Alessandro Dell'Aquila; Michael Riemer
Poster pitches: Thu, 15:15, Oticon Hall

P104 | Xiuping Yao
Vorticity Development in Saturated Moist Air Based on MPV-Q*

P105 | Chih-wen Hung
Severe Droughts in Taiwan and its Related Atmospheric and Oceanic Environments

P107 | Wansuo Duan
An approach of nonlinear forcing singular vector for dealing with model errors

P108 | Qimin Deng
Spring onset forecast using harmonic analysis on daily mean temperature in Germany

P109 | Lun Lii
Modulation of the atmospheric quasi-biweekly oscillation on the diurnal variation of the occurrence frequency of the Tibetan Plateau vortices

P110 | Ki-Byung Kim
Evaluation of the East Asian monsoon using Korean Integrated Model (KIM)

P111 | Junmei Lu
A statistical forecast model for the Chinese winter temperature based on autumn SST anomalies

P112 | Lin Zhao
Elevated Diurnal Rainfall in Northeastern Tibetan Plateau Prior to the Retreat of South Asian High

P113 | Róbert Kvak
The preconvective environments with potential orographic modification over the Western Carpathians during the severe convective storm events

P114 | Marek Kašpar
Effect of circulation anomalies on the heavy precipitation predictability

P115 | Philipp Zschenderlein
A Lagrangian analysis of upper-level ridges associated with heat waves in Europe

P116 | Christian M. Grams
The role of cloud diabatic processes in the life cycle of Atlantic-European weather regimes

P117 | Yun Yang
ENSO forced and local variability of the Indian Ocean Dipole

END OF POSTER PROGRAMME UP1.1

UP1.2 Atmospheric boundary-layer processes and turbulence

Conveners: Sergej Zilitinkevich; Gert-Jan Steeneveld
Co-convener: Bert Holtslag
Poster pitches: Fri, 10:15, Oticon Hall

P118 | Peter Huszar
On the impact of urban canopy forcing on the vertical eddy transport of ozone and PM2.5

P119 | Francisco Lang
The Marine Atmospheric Boundary Layer structure over the Southern Ocean during the SOCRATES field campaign

P120 | Jae-Sik Min
Determination of atmospheric boundary layer heights using statistical techniques

P121 | Ari Aaltonen
Potential wind speed - homogenization of wind measurements over heterogeneous terrain

P122 | Aristofanis Tsiringakis
The Single-column Urban Boundary Layer Intercomparison Modelling Experiment (SUBLIME): results of revised recipe

P123 | Evgeny Kadantsev
On dissipation rates of turbulent second-order moments

P124 | Andrey Debolskiy
Evaluating single column parametrizations of turbulent vertical diffusion for use in GCMs.

P125 | Evgeny Mortikov
Direct numerical simulation of turbulent plane Couette flow: modification of large-scale structures by stable stratification

P126 | Wai Chi Cheng
Study of the urban turbulent boundary layer above realistic urban environments using computational fluid dynamics method

P127 | So-Young Kim
Impact of revised sea surface roughness length over shallow waters in the global forecast model simulations

P128 | Mariano Sastre Marugán
Quantification of uncertainty in wind prediction: towards a climatology for the Iberian Peninsula

END OF POSTER PROGRAMME UP1.2

UP1.4 Towards a better understanding of wind gusts: observations, processes, predictions and verification

Convener: Sabrina Wahl
Co-conveners: Martin Göber; Irene Suomi; Peter Sheridan; Akio Hansen
Poster pitches: Thu, 15:00, S4

P155 | Julian Steinheuer
Strategies to measure vertical profiles of wind gusts with a doppler lidar within FESSTVaL

P156 | Rainer Kaltenberger
The International Fujita Scale: A Globally Applicable Scale for Tornado and Wind Damage Classification

END OF POSTER PROGRAMME UP1.4

UP2.3 Cloud-aerosol-radiation interactions

Convener: Emily Gleeson
Co-convener: Kristian Pagh Nielsen

P200 | Emily Gleeson
Towards harmonising radiation and cloud microphysics calculations in the HARMONIE-AROME NWP model

END OF POSTER PROGRAMME UP2.3

UP3.3 Synoptic climatology

Conveners: Radan Huth; Rasmus Benestad
Poster pitches: Fri, 10:15, Glass Hall

P175 | Seung Yeon Lee
Synoptic Climatological Analyses Using PCA on the Korea Easterlies over the Eastern Coast of South Korea.

P176 | Romana Beranova
Southern Annular Mode: different definitions of the index and their climate impacts

P177 | Farnaz Pourasghar
Synoptic Scale Influences on Summertime Heavy Rainfall Events in the Northwest of Iran

P178 | Maria Hatzaki
Linking synoptic systems activity with the occurrence of combined extremes over the Mediterranean region

P179 | Santiago Gaztelumendi
A 21st century synoptic climatology of fire-weather conditions in Basque Country

P180 | Roberto Vallorani
Summer warm days/night along the Italian Peninsula and their relationship with Circulation Types

END OF POSTER PROGRAMME UP3.3

UP3.4 Paleoclimatology and historical climatology

Convener: Rudolf Brazdil
Co-conveners: Ricardo García-Herrera; Fidel González-Rouco
Poster pitches: Thu, 18:00, S1

P185 | Hyen Goo Cho
Paleoenvironmenta Change for the Southwestern Cheju Island Mud in the East China Sea since the Last Glacial Maximum

P186 | David Gallego
Reconstructing the moisture transport from the Equatorial Pacific toward Central America since the 19th Century

P187 | David Gallego
A new meteorological database to quantify the coastal upwelling in NW Africa since the 18th Century

P188 | Lukáš Dolák
The climate in south-east Moravia, Czech Republic, 1803-1830, based on daily weather records kept by the Reverend Šimon Hausner

P189 | Rudolf Brazdil
Extreme drought of 1842 in Europe as described by documentary data and instrumental measurements

P190 | Pei-Hua Tan
Reconstruction of Climatic and Disaster Characteristics in the Middle and Lower Reaches of the Yangtze River in 1644-1911

P191 | Marian Melo
Ice jams on the Danube River during the winter 1894-95

P192 | Elin Lundstad
Weather information from Dove

END OF POSTER PROGRAMME UP3.4

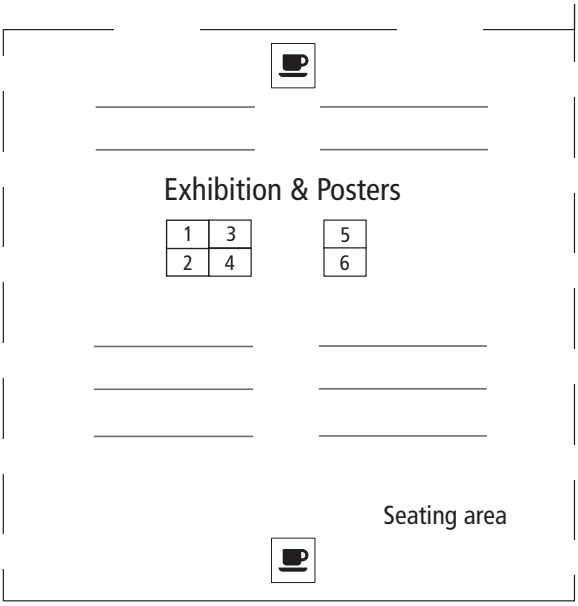
Author & convener index

Sports Hall

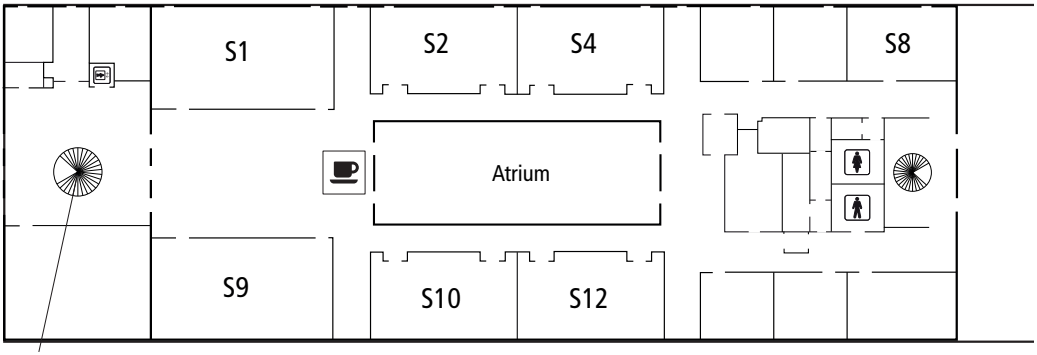
Posters, exhibition, seating area, and coffee breaks:

List of exhibitors:

#1 Atmosphere-MDPI
#2 Scintec
#3 IAP Journals
#4 PRIMET
#5 EMS & EMS Members
#6 Copernicus ECMWF



Lecture rooms: Oticon Hall, Glass Hall, M1, S1, S4, S9
Side meeting rooms: S8, S12
Working room: S10
Special Events room: S2



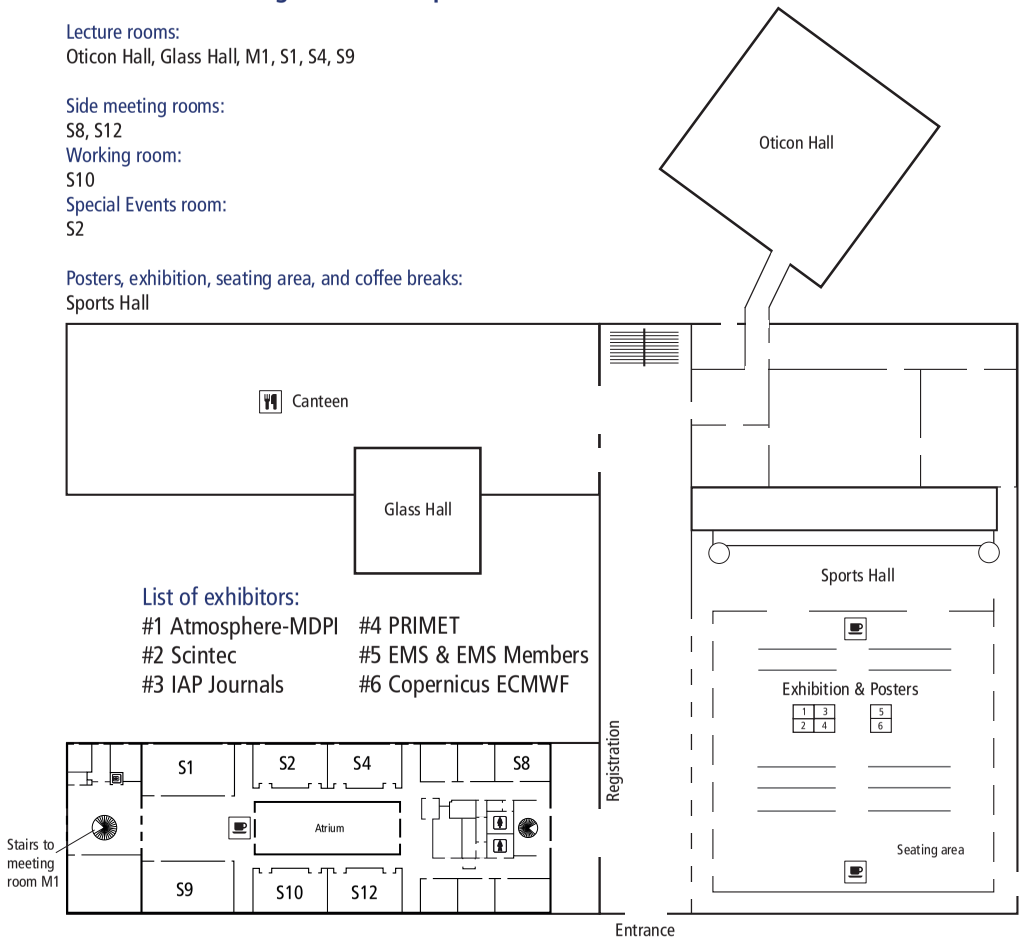
Stairs to meeting room M1

EMS Annual Meeting 2019 – floor plan

Lecture rooms:
Oticon Hall, Glass Hall, M1, S1, S4, S9

Side meeting rooms:
S8, S12
Working room:
S10
Special Events room:
S2

Posters, exhibition, seating area, and coffee breaks:
Sports Hall



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EMS Annual Meeting 2019

European Conference for Applied Meteorology and Climatology 2019