



EUROPEAN METEOROLOGICAL SOCIETY



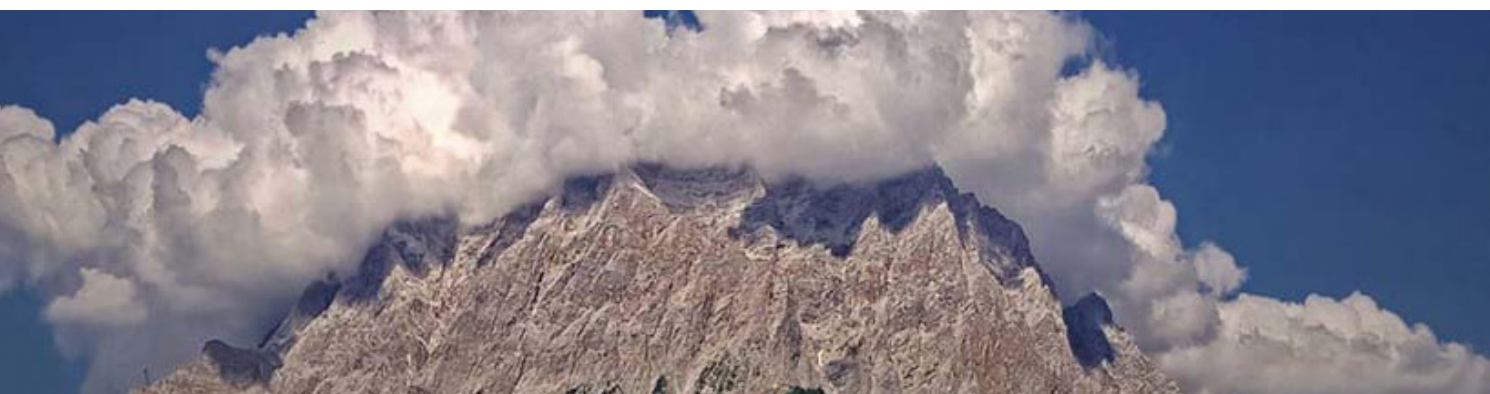
ANNUAL REPORT 2019



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Photos on page 2 (Josef Hinterleitner), 17 (Imanol Zuaznabar Garcia) and 22 (Nicolai Brügger, Carlos Punyet) were contributions to the Europhotometeo 2020. Photos on pages 5 and 6 were taken at EMS2018 (Szabolcs Dudás), photos on pages 8, 13 – 16 and 18 were all taken at the EMS2019 (Thorsten Iversen). Photos on pages 7 and 11: private.



01 Message from the President

2019 marks the 20th anniversary of the founding of the EMS. Over a 20-year period the EMS has become firmly established as a key part of the European meteorological community, and has benefited from the engagement of its Member Societies and Associate Members.



In its early days it was thought that the EMS could have a role in establishing a minimal meteorological programme for use in schools and a European accreditation scheme. Despite much effort going into trying to make progress in these areas, little has been achieved. I think the founders of the EMS would be disappointed at that outcome, but they would be pleased that the EMS has developed in such a way that it:

- Has successful Annual Meetings that bring together the public, private and academic sectors.*
- Recognises achievement in meteorology, technology, journalism, outreach and communication.*
- Supports the development of early career scientists.*
- Facilitates the exchange of experience and expertise between meteorologists working in the media.*
- Enhances communication between EMS Members and the sharing of experiences.*

In this Annual Report you will find information about these activities.

The last EMS Annual Meeting (EMS2019) was held on the campus of Denmark's Technical University at Lyngby in the outskirts of Copenhagen. A record was set by having 846 participants from 50 countries. As well as the comprehensive scientific programme, there were various side meetings, workshops and exhibitions that enhanced the meeting. Thanks go to the Local Organising Committee, Programme and Science Committee, Danish Meteorological Society, Danish Meteorological Institute and the many supporters, sponsors and volunteers for creating a memorable event.

The success of the EMS depends upon the activities of its various teams and committees. As well as recognising the enthusiastic and committed membership of those bodies, particular thanks go to their chairs: Sylvain Joffre (Committee on Meetings), Emily Gleeson (Liaison Committee), Tanja Cegnar (Media & Communications Team), Mojca Dolinar (Awards Committee) and Ben Dieterink (Technology Achievement Award Committee).

The EMS benefits from the dedicated members of its Council. The contributions of Paul Halton (IMS, Ireland), whose term of office as a Councillor has come to an end, are greatly appreciated. There are two new members of Council: Paulína Valová (SMS, Slovakia, 2019–2022) and Jordi Mazon (ACM, Spain, 2019–2021).

The EMS is fortunate in having a highly-effective Secretariat, consisting of Martina Junge, Executive Secretary, and her assistant, Andrea Oestreich. Also important are the contributions made by Jean-Pierre Chalon (Météo et Climat, France) as Vice-President and Heinke Schlünzen (DMG, Germany) as Treasurer. I thank them for all they have done to ensure that EMS is successful.

Bob Riddaway, EMS President

02 Membership

By the end of 2019 the EMS had 38 Member Societies. In addition, there are 29 Associate Members: National Meteorological and Hydrological Services, Service Providers, Manufacturers, Education and Research Institutions, and International Organisations. Each of these groups can delegate one observer to Council Sessions to represent their specific views on any issue and advise the Council. Two international organisations have permanent observer status at the Council.

New Members in 2019

In 2019 three new organisations joined the EMS: one Member Society and two Associate Members.

The **Estonian Meteorological Society (EstMS)** was established as a section of the Estonian Naturalists' Society in 2018; the section has 34 members (end of 2019), and is headed by its President Piia Post. The Society's objective is to bring together professional and amateur scientists, and people interested in nature, with the purpose of aiding the study of Estonian nature, furthering environmental preservation and education in Estonia, and popularising the results of scientific research. Its main activities include organising conferences, seminars and discussions, and arranging tours and nature observations – these promote meteorology and related sciences, and advance meteorological education and culture. The Society has established a "Council of Terminology" with the task of unifying and developing Estonian-language terminology in meteorological and climatological sciences.

The **Meteotechnology Laboratory LLC (MeteoLab)** was founded in 2017. It is a small company with less than ten employees and is based in St. Petersburg, Russian Federation. Originally founded in 2010 as part of Russian State Hydrometeorological University, the laboratory became an independent company in 2018. The director is **Dr. Vladimir V. Chukin**. The main activities are the development of sensor networks for local weather and air quality monitoring, as well as research on atmospheric aerosols. As part of the dissemination of advanced technologies, the educational project "Digital Meteorology" is being implemented to support meteorological projects by students using the Internet of Things technology.

The **Danish Meteorological Institute (DMI)** is the national weather service in Denmark. DMI provides meteorological services in the Commonwealth of the Realm of Denmark, the Faroe Islands, Greenland, and surrounding waters and airspace. Meteorological services include forecasting, warning and monitoring of weather, climate and related environmental conditions in the atmosphere, on land and at sea. All DMI activities are aimed at safeguarding human life and property. DMI has 274 employees and its headquarters is in Copenhagen. However, staff are also based at the military airports at Karup and Skrydstrup and in the weather service in Kangerlussuaq in Greenland. DMI was one of the hosts of the EMS Annual Meeting 2019 in Copenhagen.

Members who left the EMS

Two Associate Members left the organisation. The European Space Agency (ESA), as a permanent observer, had to focus on its key activities and therefore withdrew its membership. Also the private service provider Institute for Weather & Climate Communication (IWK) was dissolved and thus ceased to be an Associate Member.

EMS Member Societies 2019

ANDORRA ASOCIACIÓ DE METEOROLOGIA I CIÈNCIES DE L'ATMOSFERA D'ANDORRA

AUSTRIA ÖSTERREICHISCHE GESELLSCHAFT FÜR METEOROLOGIE

BELGIUM SOCIÉTÉ ROYALE BELGE D'ASTRONOMIE, DE MÉTÉOROLOGIE ET DE PHYSIQUE DU GLOBE

BOSNIA AND HERZEGOVINA UDRUŽENJE METEOROLOGA U BOSNI I HERCEGOVINI

BULGARIA AVIOMETEOROLOGICAL CLUB OF BULGARIA
BULGARIAN METEOROLOGICAL SOCIETY

CROATIA HRVATSKO METEOROLOSKO DRUSTVO

CYPRUS CYPRUS METEOROLOGICAL ASSOCIATION

CZECH REPUBLIC ČESKÁ METEOROLOGICKÁ SPOLEČNOST

DENMARK DANSK METEOROLOGISK SELSKAB

ESTONIA ESTONIAN METEOROLOGICAL SOCIETY

FINLAND GEOFYYSIKKOJEN LIITTO
GEOFYSIIKAN SEURA

FRANCE MÉTÉO ET CLIMAT - SOCIÉTÉ MÉTÉOROLOGIQUE DE FRANCE

GERMANY DEUTSCHE METEOROLOGISCHE GESELLSCHAFT

GREECE ELLINIKI METEOROLOGIKI ETAIREIA

HUNGARY MAGYAR METEOROLÓGIAI TÁRSASÁG

ICELAND VEÐURFRÆÐIFÉLAGIÐ

ISRAEL ISRAEL METEOROLOGICAL SOCIETY

IRELAND IRISH METEOROLOGICAL SOCIETY

ITALY SOCIETÀ METEOROLOGICA ITALIANA
ASSOCIAZIONE ITALIANA DI AGROMETEOROLOGIA
ASSOCIAZIONE ITALIANA DI SCIENZE DELL'ATMOSFERA E METEOROLOGICA

UNIONE METEOROLOGICA DEL FRIULI VENEZIA GIULIA

THE NETHERLANDS NEDERLANDSE VERENIGING TER BEVORDERING VAN DE METEOROLOGIE

NORTH MACEDONIA ZDRUZENIE NA VOZDUHOPLOVNI
METEOROLOZI – METEO

NORWAY FORSKERFORBUNDETS METEOROLOGIFORENING

POLAND POLSKIE TOWARZYSTWO GEOFIZYCZNE
– METEOROLOGICAL SECTION

PORTUGAL ASSOCIAÇÃO PORTUGUESA DE METEOROLOGIA E GEOFISICA

ROMANIA SOCIETATEA METEOROLOGICA ROMANA
ASOCIAȚIA ROMÂNĂ DE METEOROLOGIE APLICATĂ ȘI EDUCAȚIEA

SERBIA METEOROLOSKO DRUSTVO SRBIJE

SLOVAKIA SLOVENSKÁ METEOROLOGICKÁ SPOLOČNOST

SLOVENIA SLOVENSKO METEOROLOŠKO DRUŠTVO

SPAIN ASOCIACIÓN METEOROLOGICA ESPAÑOLA
ASSOCIACIÓ CATALANA DE METEOROLOGIA

SWEDEN SVENSKA METEOROLOGISKA SÄLLSKAPET

SWITZERLAND SCHWEIZERISCHE GESELLSCHAFT FÜR METEOROLOGIE

UNITED KINGDOM ROYAL METEOROLOGICAL SOCIETY

Membership 2019 in numbers

Member Societies: 38

Number of states: 31

Number of individuals represented: 9,733

Associate Members: 29

National Meteorological and Hydrological

Services: 15

Private Service Providers: 5

Manufacturers: 5

Education and Research Institutions: 1

International Organisations: 3



03 Council & General Assembly 2019

The EMS Council met in Lyngby, Denmark, on 27–28 March 2019 for its 40th Session and again on 8 September 2019 for its 41st Session. The 19th General Assembly convened on 8 September 2019, following the meeting of Council.

Council

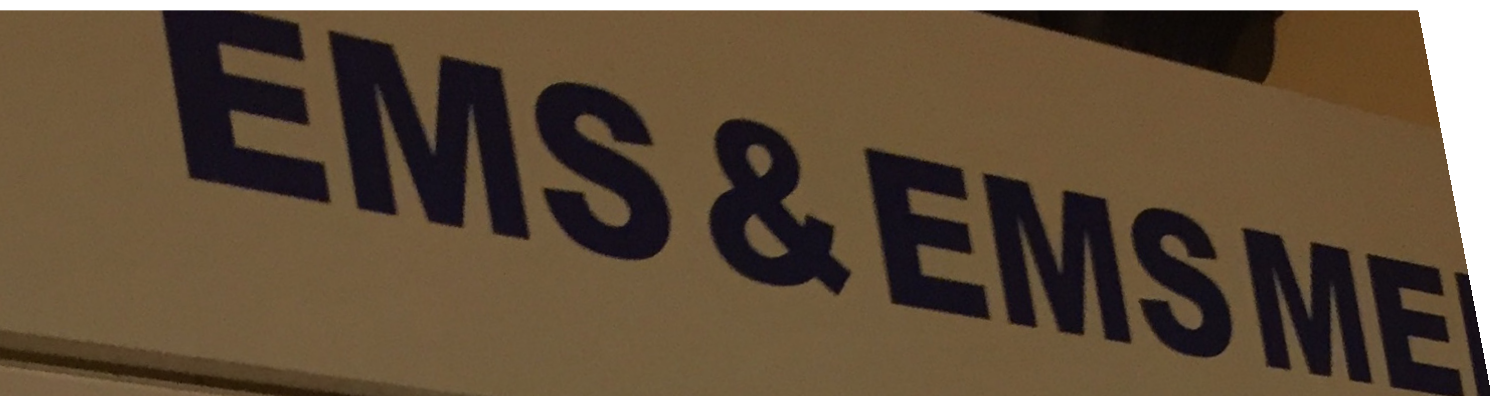
The Council consists of representatives of the Member Societies from France, Germany and the UK along with six representatives from Member Societies who are elected by the General Assembly for a term of three years. The responsibilities of Council are to plan, direct, monitor and manage the affairs of the Society. This includes monitoring income and expenditure, the activities of the committees and the implementation of the strategic plan. The following are some of the key decisions taken at the two Council meetings held in 2019.

- **Silver Medal:** Council selected Gerald Fleming to receive the EMS Silver Medal 2019.
- **Technology Achievement Award:** Council selected the Copernicus Climate Data Store to receive the EMS Technology Achievement Award 2019.
- **Outstanding Contribution Award:** Council selected Fritz Neuwirth to receive the Outstanding Contribution Award 2019.
- **New Members of Committees:** Council approved the selection committees for three Media Awards announced for 2019, and

Carlo Buontempo (ECMWF-Copernicus) as new member of the Committee on Meetings. Council also approved the membership of the Programme and Science Committee for the EMS Annual Meeting 2020.

- **EMS President:** Council agreed arrangement for electing a new EMS President who will take office in September 2020.
- **Europhotometeo:** Council agreed arrangements for the photo competition to be held in 2020.
- **EMS Annual Meeting venue 2022:** Council accepted the proposal of DWD and DMG to hold the EMS Annual Meeting 2022 at the University of Bonn, Germany, from 4 to 9 September 2022.
- **Update license contract with Copernicus:** Council approved the change to the license contract, detailing that a persistent web application (PWA) will replace the conference app and the programme book for the EMS Annual Meetings
- **Budget 2020:** Council approved the 2020 EMS Budget. This included provision for employing a part-time media assistant, preparing web pages for the photo competition, and funding an external consultant to help develop a communications and social media strategy.

Minutes of Council Sessions are available at <https://www.emetsoc.org/about-ems/council/council-meetings/>.



General Assembly

The General Assembly is composed of representatives of the Member Societies. It convenes at least once a year; apart from formal decisions such as approving the Bureau and financial reports, electing representative Members on the EMS Council, and dealing with constitutional matters, the meeting provided an opportunity to gather input for a new strategic plan. This involved break out groups considering a set of questions and commenting upon some strategic issues that had already been identified. The results are being taken into account when preparing a new strategic plan.

The following are some of the key decisions taken at the General Assembly.

- **Membership:** The General Assembly welcomed the Estonian Meteorological Society as new EMS Member Society, and Meteotechnology Laboratory and the Danish Meteorological Institute as new EMS Associate Members.
- **Council Elections:** The General Assembly elected the following Societies as Representative Members on the EMS Council for the term until 2021: Paulína Valová representing the Slovak Meteorological Society (SMS), and Jordi Mazon of the Associació Catalana de Meteorologia (ACAM) to represent the meteorological societies in Spain on the EMS Council from autumn 2019 – autumn 2021, with the Asociación Meteorológica Española (AME) appointing a representative from autumn 2021 – autumn 2022. The General Assembly also welcomed Shanti Majithia as the new representative of the permanent Member Royal Meteorological Society (RMetS). He succeeds Ewen McCallum who had been representing the RMetS since 2015.

- **Auditors:** The General Assembly appointed Sozietät Dr. Broll Schmitt Kaufmann & Partner, Berlin/ Dipl.-Finw. Matthias Keil, Germany, as the auditor for the accounts of the year 2019.

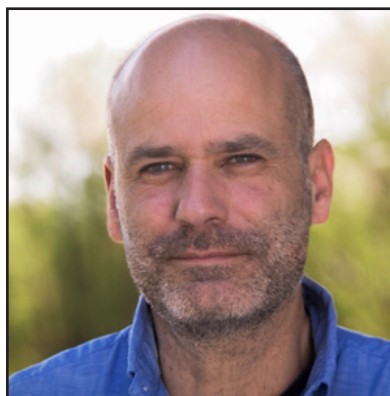
The minutes of the General Assembly are accessible [here](#).



Paulína Valová

representing SMS

- Meteorologist at the Slovak Hydro-meteorological Institute
- President of the Slovak Meteorological Society



Jordi Mazon

representing ACAM

- Lecturer at the Department of Physics at BarcelonaTech
- President of the Catalan Meteorological Society



Shanti Majithia

representing RMetS

- Career in the energy industry and climate change adaptation
- General Secretary of the Royal Meteorological Society

04 EMS Annual Meeting 2019

The central event in the EMS calendar is the EMS Annual Meeting. Many of the EMS initiatives and projects gather around this important event: workshops are held, awards are presented and the committees and project teams have ample opportunities to meet. The Annual Meeting 2019 (EMS2019) was no exception. Held in September in Lyngby at the campus of Denmark's Technical University located at the outskirts of Copenhagen, EMS2019 was attended by 846 participants from 50 countries. Many organisations used the meeting as an opportunity to hold side events or workshops.

The focal point of the conference was the central sports hall, illuminated by day light from above, where posters were displayed and catering provided, along with the exhibition located right in the centre of it all. Though some felt the hall and rooms were too dispersed throughout the building, the central hall was where people met, discussed the posters or exchanged information about research and new tools and products. The size of the conference – daily participant numbers were between 300 and 400 – provided ideal opportunities for practitioners, researchers and communicators to exchange views across sectors and areas, and was “small” enough for it to be easy to bump into everyone at the meeting.

The conference theme, “The Arctic: the new frontier for weather, ice and climate research, forecasting, and services”, highlighted that

the massive changes in Arctic temperature, sea-ice, glaciers, freshwater, soils, permafrost, precipitation and river discharges have dramatic impacts on the ecology and societies of the Arctic. These changes raise issues about future safety, socio-economic impacts, and infrastructure investments, thus underlining the urgent need for a better understanding of all relevant processes of the Earth system.

- **EMS2019 country statistics of participants**
- **EMS2019 Photo gallery**
- **EMS2019 Outstanding poster**
- **EMS2019 Short interviews** with poster presenters, exhibitors, convenors, the chair of the poster selection committee and local hosts of this and the forthcoming Annual Meetings: The short statements make an interesting potpourri of the wealth of the conference, as a place to meet, exchange, network learn and have fun.

The conference programme consisted of 53 sessions with 470 oral presentations and 330 poster presentations. Also poster pitches of 1–2 minutes provided the opportunity for authors to introduce their posters during the oral sessions. The programme had three streams, with each stream overseen by Stream Moderators.

- Engagement with Society (ES)
- Operational Systems and Applications (OSA)
- Understanding Weather and Climate Processes (UP)



After the conference, 183 (23%) of the oral and poster presentations were uploaded by the authors and are publicly available from the session programme together with the abstracts at <https://bit.ly/2Wka1FS>.

Participants were asked to give feedback through an online survey open for seven weeks after the conference. Based on the replies from 170 of them, there was an overall very good appreciation of EMS2019.

- **Summary slides of feedback**

Plenary Keynotes

As in previous years, plenary keynote presentations were given by eminent speakers who provided insights and overviews on hot topics connected to each of the Programme Streams.

- Hans Bruyninckx, Executive Director European Environment Agency, Copenhagen: *Climate change knowledge for informed policy making and implementation*.
- Kenneth Holmlund, EUMETSAT Chief Scientist: *EUMETSAT: Providing accurate, reliable and timely satellite data for weather, climate and environmental applications*.
- Linus Magnusson, ECMWF, Senior Scientist Forecast Department: *ECMWF activities for improving polar prediction*.

Townhall Meeting

This event took the form of a panel discussion on “moving forward from communication to action”. The panel consisted of Jenni Evans (President of the American Meteorological Society), Petteri Taalas (Secretary-General of WMO) and Pekka Tiainen (Special Expert International Affairs at the Department of Rescue Services in Finland). The lively and thought-provoking discussion covered topics such as: “how do we get the general public and those in authority to understand the 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”. The panel discussion was moderated by Marianne Thyrring (Director Danish Meteorological Institute).

Exhibition

The exhibition, in the large hall where posters were displayed and the catering was served, enjoyed plenty of attention during coffee breaks.

- Scintec, a manufacturer of advanced instruments for remote sensing of atmospheric wind, temperature and turbulence, provided information about their products and future plans.
- PRIMET, the association of private service providers in Europe, informed participants about their activities and organised a session



about the Global Weather Enterprise in collaboration with ECOMET and the ES Programme Stream Moderators.

- Copernicus Climate Change Service operated by ECMWF demonstrated how it monitors and analyses essential climate variables to build a global picture of the climate.
- MDPI provided information about its journals with emphasis on its open access interdisciplinary journal *Atmosphere* which publishes scientific research related to the atmosphere.
- IAP Journals highlighted *Atmospheric and Oceanic Science Letters* – an open access publication dealing with all aspects of the atmospheric sciences and physical oceanography.

Interviews are available with

- **Julia Carelli, Scintec**, and
- **Andrew Ecclestone, PRIMET**,

on their activities and why they attend the Annual Meeting.

This year the EMS also had a booth that provided a meeting point for EMS committees and others who had an interest in the EMS. Material provided by various EMS Member Societies was displayed throughout the week.

Outstanding Poster Award

The Outstanding Poster Award 2019 was won by Mendy van der Vliet, from VanderSat B.V., Haarlem, Netherlands, for the poster “Operational agricultural applications in emerging economies based on satellite soil moisture”. The layout of this poster was outstanding: the general flow in the poster was logical and the text was very clear and easy to understand. This poster demonstrated the potential of high-resolution soil moisture products to agriculture services through three examples. There is no doubt that this work can have a significant impact on societies, particularly in regions with less developed traditional monitoring of soil moisture. The poster can be viewed [online](#).

Early Career Scientist Café

At EMS2019 an innovative workshop, particularly for young scientists, was offered for the first time: the Early Career Scientist Café. Here postgraduate students and others were able to connect with other young scientists and to discuss with experts important career topics such as networking, paper-writing, career options, applying for a job or international involvement. The Café provided a perfect opportunity to gain new insights and ask all kinds of questions that might be on the mind of a young scientist considering a scientific career. For feedback from two who participated see [here](#).



Future Meetings

EMS Annual Meetings have been arranged for the next three years, but the EMS2020 foreseen to take place 7–11 September 2020, at the University of Economics in Bratislava had to be cancelled due to the COVID-19 pandemic.

It is hoped that the following ones can be held again as onsite and hybrid events:

- 6–10 September 2021, Historical University of Barcelona.
- 5–9 September 2022, University of Bonn.

Jon Wieringa

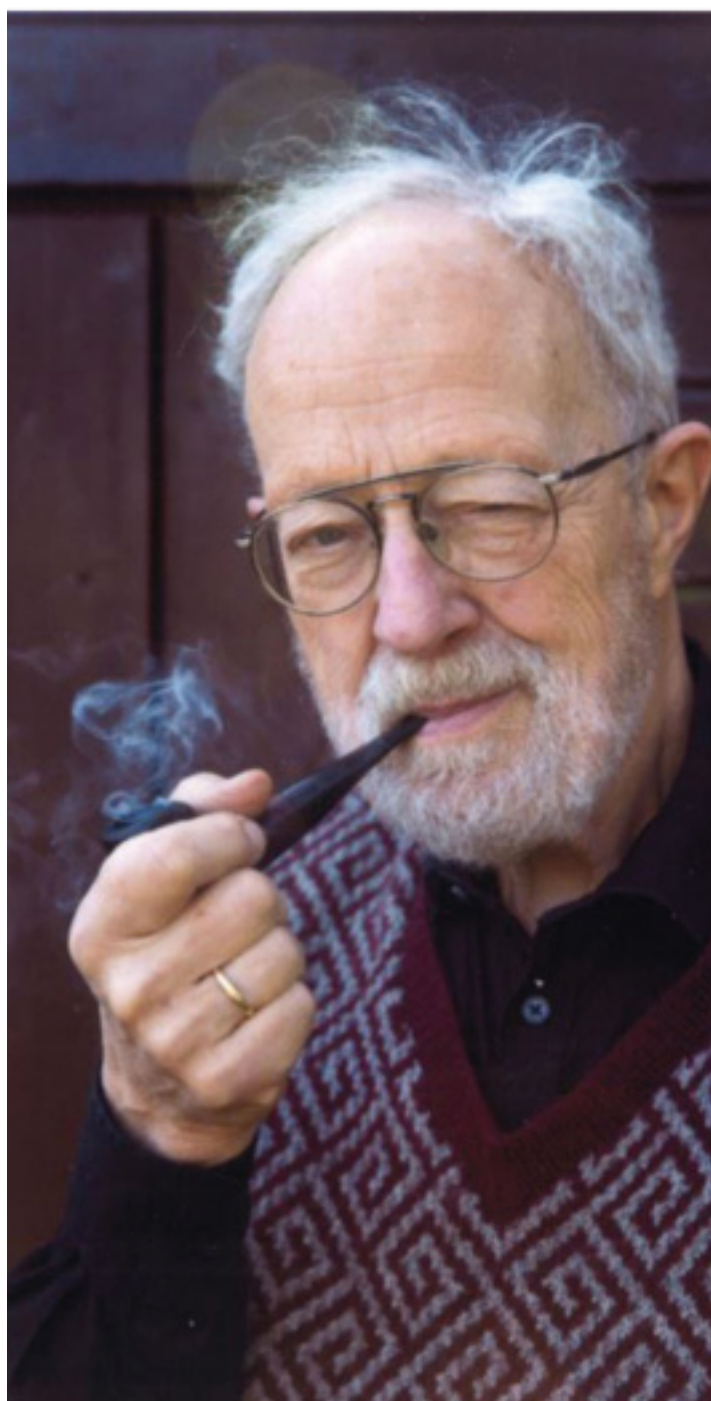
Jon Wieringa, one of the founders of the EMS, died unexpectedly on 1 November 2019.

In 1991 Jon realised that there would be benefits in European meteorological societies cooperating, if only they were aware of each other's existence. At Jon's suggestion, it was arranged that a meeting of representatives from meteorological societies would take place during the first European Conference on Applications of Meteorology (ECAM) held in 1993 in Oxford, UK. This fruitful meeting was the starting point for a series of events that eventually led to the establishment of the EMS at the fourth ECAM in Norrköping in 1999.

After the EMS had been formally established, Jon was involved in specifying EMS's governance, finance and activities. Thereafter, Jon made important contributions to the development and growth of the EMS. It is likely that without Jon's far-sightedness, enthusiasm and commitment the EMS would not exist.

More information about the founding of the EMS can be found in two papers written by René Morin and Jon Wieringa entitled *Associating weather societies across Europe*, published in *Weather*.

- Part 1: <http://onlinelibrary.wiley.com/doi/10.1002/wea.3078/full>
- Part 2: <http://onlinelibrary.wiley.com/doi/10.1002/wea.3089/full>



05 Communication & Publications

The main objective of communication and publication activities is to share information about the endeavours of EMS Members, provide examples of good practice, and facilitate the sharing of experience and fostering of collaboration between the Members and Associate Members. The channels of communication include the website, the electronic newsletter called the *ems-message* and social media channels. In addition, short conference papers based on contributions to the EMS Annual Meetings are published in *Advances in Science and Research – Contributions to Applied Meteorology and Climatology*. Discussions at the General Assembly also play an important role in the exchange of information. For more see: <https://www.emetsoc.org/publications>.

Website and Social Media: The most important tool of communication between the EMS and its Members is the EMS website: www.emetsoc.org. It provides information about the activities of the EMS as well as other initiatives and events of interest to the wider meteorological community.

- Information on each Member and Associate Member including links to reports about their most recent initiatives and activities.
- News section dedicated to recent developments involving EMS Members and the wider meteorological community.
- Interviews with members of Member Societies

and representatives of Associate Members.

- Many resources and links, plus announcements of awards and job opportunities.

The EMS also posts information on current activities on:

- **Twitter**
- **LinkedIn**
- **Facebook**

Streams, interviews and highlights of the EMS2019 are also available on **YouTube**.

ems-message: The *ems-message* is an e-mail-based newsletter highlighting the latest news items published on www.emetsoc.org. With the launch of the Liaison Committee in 2017, more information from EMS Members is now provided.

- Five issues of the *ems-message* were published in 2019, with 9 to 15 articles in each edition.
- The majority of articles contain information about activities, events and new initiatives by EMS Members; but information on European organisations such as EUMETNET and scientific articles have also been included.
- Additional topical information about the activities of EMS, job announcements, upcoming conferences, and announcements and closing dates related to EMS awards are provided by the Liaison Committee and the EMS Secretariat.

Unfortunately, three members of the Liaison Committee, including the chair Emily Gleeson,



Contributions in Applied Meteorology
and Climatology

06 International Collaboration

Ireland, left the committee in the autumn. The EMS is very grateful to their commitment and proud what they have achieved. The EMS President took over the editing of the *ems-message* until a new communications and social media strategy has been agreed. Subscription to the *ems-message* is possible through the website.

Conference Proceedings: Contributions to the EMS Annual Meetings can be published as short conference papers in *Advances in Science and Research - Contributions in Applied Meteorology and Climatology* (ASR).

ASR publishes original contributions on (a) advances in understanding weather and climate processes and (b) the development of operational systems and applications of meteorology, climatology, and related disciplines. This also includes new challenges and the role of communication, education and training, and engagement with society for the profession and its practices. ASR is an open-access journal for contributions presented at the Annual Meetings of the EMS and other related events. Submissions to ASR undergo a peer-review and convenors of sessions at the EMS2019 volunteered to be guest editors for their specific topics. Articles published in ASR are included in major data bases, including the Conference Proceeding Citation Index (CPCI) which is part of the Web of Science™ Core Collection, and SCOPUS.

The EMS as an international organisation strives to maximise the effectiveness and efficiency of its activities by engaging and collaborating with other organisations in the meteorological, climatological and related areas.

Tromp Foundation: The EMS Tromp Award was established in 2015 as a collaboration between the Tromp Foundation and the EMS. This award, funded by the Tromp Foundation, is aimed at promoting biometeorology in Europe, and is given for an outstanding achievement in biometeorology.

The EMS Tromp Award 2019 was presented to Diego G. Miralles, Ghent University, Belgium. He was nominated with the paper: *Land-atmospheric feedbacks during droughts and heatwaves: state of the science and current challenges*, D.G. Miralles, P. Gentile, 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 gave an award lecture at EMS2019 on *Land-atmospheric feedbacks during droughts and heatwaves*.

The Tromp Foundation also provides funding for young scientists to attend the EMS Annual Meetings and give presentations about some aspects of biometeorology. Four young researchers were selected to attend EMS2019.

- Dragan Milošević (Serbia), presenting *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.

- Mohammad Taleghani (UK), presenting *The impact of land cover on pedestrians' thermal comfort within a university campus.*
- Moshe Mandelmilch (Israel), presenting *Analysis of the Urban Heat Island magnitude in the Desert City of Beer-Sheva, Israel, Using a Modified Local Climate Zone Classification.*
- Pavel Konstantinov (Russian Federation), presenting *Boundary layer inversions and human thermal comfort in Arctic cities (based on UHIARC measurements).*

Harry Otten Prize for Innovation in Meteorology:

There has been a long and harmonious relationship between the Harry Otten Foundation and the EMS ever since the establishment of the Harry Otten Prize for Innovation in Meteorology and the decision to present the prize every two years at an EMS Annual Meeting. At EMS2019 the jury announced that Malcolm Kitchen (UK Met Office) and Chris Brunt (University of Exeter) have won the first prize by proposing a new method of measuring atmospheric refractivity to obtain humidity information by determining the bending of radio signals broadcast by commercial aircraft. The method generates information about the humidity all the way from the airplane to the measuring instrument. Knowing the moisture distribution is very important for weather forecasting. Shower prediction, for instance, could be improved with their method. They demonstrated the viability of the idea using a

preliminary setup in southwest England.

Global Weather Enterprise (GWE): The GWE consists of activities by individuals and organisations to enable weather information to be created and provided to society. The aim is to take action to provide up-to-date systems that protect life, property, and wellbeing. PRIMET and ECOMET, along with the World Meteorological Organization and the World Bank, are key actors in this effort. At a session at EMS2019 organised by PRIMET and ECOMET, recent developments were reviewed and examples given of existing public-private collaborations in Europe. The keynote speakers, Dimitar Ivanov (WMO), Karl G. Gutbrod (meteoblue), James Block (DTN) and Adriaan Perrels (FMI) highlighted how the private sector is bringing benefits to society and how these can be enhanced by further developing the public-private partnership. An eNewsletter produced by the GWE Forum can be accessed at <https://www.gweforum.org/>.

American Meteorological Society (AMS): There is an agreement between the EMS and the AMS which covers topics such as non-confliction meeting dates, co-sponsoring of meetings, and publications. Also, as part of this agreement, each society tries to have an appropriate representative at the annual meeting of the other, recognizing that scheduling conflicts may occasionally prevent this. By invitation, the EMS President participated in a Townhall Meeting at the AMS Annual Meeting in Phoenix in January



2019. His chosen topic was “Do meteorological societies do things that others cannot?”. Similarly, Jenni Evans (AMS President) attended EMS 2019 and contributed to a Townhall Meeting as a member of the panel that discussed “moving forward from communication to action”. The agreement between the EMS and AMS recognises that the two organisations have the common goal of supporting the creation and dissemination of knowledge in the atmospheric and related sciences.

International Forum of Meteorological Societies:

The International Forum of Meteorological Societies (IFMS) aims to foster international collaboration and cooperation in science and technology and to help National Meteorological Societies to form and become stronger to help build capacity in their countries. It does this by facilitating exchange of knowledge, ideas and resources between the meteorological societies of the world. The IFMS has around 40 members, including the EMS and some other national meteorological societies in Europe. The EMS takes an interest in the activities of the IFMS, but in 2019 there was no direct involvement. Liz Bentley, Chief Executive of the Royal Meteorological Society, is the IFMS Council Member for Europe (Region VI). Meteorological societies in Europe can **join the IFMS**, for which there are no fees.

The Media & Communications Team investigates the way presentations have an impact on the public, serves as a forum for exchange of experience between meteorologists and climatologists working in the media in different countries, and cooperates with weather presenters that are members of the AMS, International Association of Broadcast Meteorologists (IABM) and other organisations.

The NMHS Communicators Workshop: A workshop for NHMS communications officers was held alongside EMS2019 as a two-day event, co-organised by ECMWF, EUMETSAT, WMO and EMS. Apart from many contributions about experience gained with hot topics such as Fridays4Future, it provided input on topics such as using products from the Copernicus Atmosphere Monitoring Service, WMO - UN Climate Action Summit, Europe’s weather satellites – the next generation, and broadcast meteorologists and climate communication.



Media Awards: One of the central objectives of the EMS since its foundation has been the exchange of views on how to improve communication of meteorological and climatological information between developers, users and decision makers, and to the general public. To highlight outstanding examples and achievements in this area, the EMS Media Awards have been established.

• **EMS Outreach & Communication Award**

2019: This award was presented to the project “Communicating Climate Change” (“Comunicare il cambiamento climatico”), by Legambiente Friuli Venezia Giulia and coordinated by Elisa Cozzarini. What is the best way to communicate climate change? How can we make people aware of the need to act before it is too late? Why is it so difficult to get governments involved in taking action against climate change? The project tried to answer these questions by arranging a variety of events for a wide range of participants. Ten short documentaries were produced and made freely available with English subtitles on YouTube.

• **EMS Journalistic Award 2019:** This biennial award was presented to Amanda Ruggeri, UK, for her article “Miami’s fight against rising seas” which was published on 4 April 2017 on the BBC.com/future website: Miami’s fight against rising seas. Amanda is Editor, London Features,

and Editor, BBC Future. Her article addressed the important issue of the impacts of climate change. She covered various aspects of the subject – environmental, social and political – while presenting different points of view through personal statements.

• **EMS TV Weather Forecast Award:** This award was presented to Karsten Schwanke for his broadcast on the ARD Weather Show on 16 February 2019. In his broadcast Karsten used half of the presentation time to explain the role of humidity and cold weather evaporation over a deep snow pack. The tone he used in conveying weather information was friendly and the explanation, with good simple graphics, was understandable to a wide audience. This was an excellent example of how to link a weather forecast with explaining meteorological phenomena.



The Awards Programme of the EMS honours outstanding achievements of meteorologists through the EMS Silver Medal, the Technology Achievement Award and the Media Awards, acknowledges excellence in young scientists through the Young Scientist Award, and provides travel support for young scientists in the early stage of their career. The Outstanding Poster Award highlights good practice in poster presentations at EMS Annual Meetings, and the Outstanding Contribution Award recognises important contributions to the development of the Society.

The presentation of all awards, including the EMS Tromp Award and Tromp Foundation Travel Awards, took place during the Awards Session at EMS2019.

Young Scientist Travel Awards: Most awards are given as travel support for young scientists in the early stage of their careers. As a result, they can participate in international conferences that provide opportunities for communicating and discussing their work, developing expertise as well as enlarging their network of collaboration.

In 2019, the EMS assigned eight Young Scientist Travel Awards (YSTA) for participation in five events. The awardees came from Bosnia and Herzegovina (1), France (1), Hungary (1), Italy (1), Lithuania (1), Russian Federation (1), Sweden (1), and the UK (1). Reports provided by award recipients are available at the [awards section](#).

EMS2019, Copenhagen, Denmark

- Bernat Jiménez Esteve, ETH Zurich, Switzerland: *ENSO influence on the North Atlantic: Interaction between the stratospheric and the tropospheric pathways*
- Elżbieta Lasota, Wrocław University of Environmental and Life Sciences, Poland: *Raytracing Through Tropical Cyclone Meranti With GNSS and GFS/WRF/ERA*
- Magdalena Mittermeier, Ludwig-Maximilians University Munich, Germany: *Detecting the Dynamics of Heavy Precipitation Vb-Cyclones Under Climate Change Using Neural Networks*
- Souleymane Sy, Italian National Research, Potenza, Italy : *Sensitivity of Radiosounding Temperature and Humidity Trends to Estimation Algorithms and Subsampling Effects*

ICAM 2019, Riva del Garda, Italy

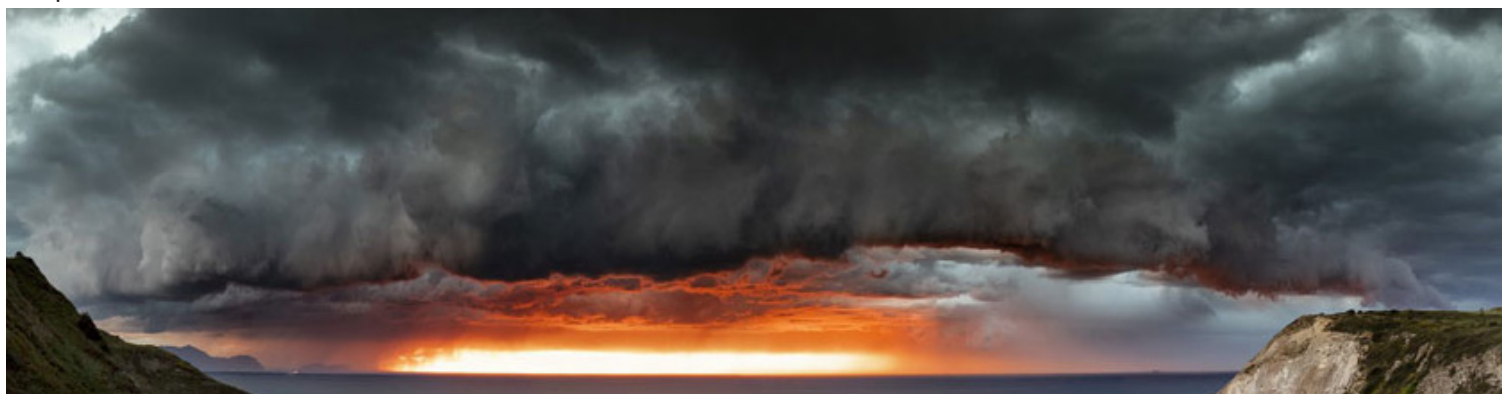
- Alessio Golzio, University of Milan, Italy: *High resolution WRF over mountainous complex terrain: validation over the Ortles Cevedale area*

2019 Joint Satellite Conference, Boston, USA

- Andrejs Zubaničs, Latvian Environment Geology and Meteorology Centre, Riga, Latvia: *River Ice Detection on The Daugava River Using Sentinel-1 SAR Data*

EC on Severe Storms 2019, Kraków, Poland

- Platon Patlakas, National & Kapodistrian University of Athens, Greece: *Estimating the risk exposed areas and the return periods of Medicanes*



EMS Silver Medal: The EMS Silver Medal 2019 was presented to Gerald Fleming, Ireland, for his 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. He is recognised throughout Europe, and beyond, as a leader in meteorological communication

Gerald delivered the Silver Medal Lecture: *From Cardboard Charts to Climate Change – Four Decades of Challenges in Communicating Weather Information* at EMS2019. The laudation was given by Haleh Kootval, a consulting specialist in meteorology and service delivery at the World Bank and prior Chief of the Public Weather Services Programme at WMO.

Technology Achievement Award: The EMS Technology Achievement Award 2019 was awarded to the team at the Copernicus Climate Change Service (C3S) who developed the Climate Data Store (CDS). The award recognises that the 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. The CDS supports climate services in Europe by providing

seamless access to high-quality climate datasets. Representatives of the CDS team presented the tools and applications during EMS2019.

Young Scientist Award: The EMS Young Scientist Award 2019 was presented to Sebastian Schemm, ETH Zürich, Switzerland, nominated with the publication: *Which Came First? Fronts, Lows, and the Life of an Extratropical Cyclone*, S. Schemm, M. Sprenger, and H. Wernli, *Bull. of the Am. Meteorol. Soc.* (2018). In his study, he addresses the question: when, during their lifetime, are extratropical cyclones attended by fronts? According to his work, both initial-front and late-front cyclones contribute to the overall cyclone climatology in the northern hemisphere. This indicates that nature promotes two scenarios: cyclones that form on pre-existing fronts and fronts that develop during and because of cyclone intensification.

EMS Outstanding Contribution Award: The EMS Outstanding Contribution Award 2019 was presented to Fritz Neuwirth (ÖGM, Austria). Fritz was a member of a working group that led to the establishment of the EMS in 1999. For the first two years, Fritz was one of three Vice-Presidents, and since then he has been a friend and supporter of the EMS. In 2008 Fritz became the EMS President. At the end of his period of office, he continued as a member of the Editorial Board and in 2015 started a three-year period as a member of Council. Over many years the EMS has benefited from Fritz's wisdom, enthusiasm and good humour.



09 Our Resources: Financial Accounts 2019

The balance as at 31 December 2019 has increased by 52 850.15€ as compared to 31 December 2018.

Summary Statement of Financial Activities for the Year 2019

All financial figures are given in Euro.

	2019	2018
INCOME		
Income Societies Membership Fees	20 023.07 ^a	19 185.27
Income Associate Membership Fees	34 990.00 ^b	36 810.00
Annual Meeting license fee	114 734.64	85 487.59
Other	8 031.42 ^c	5 984.13
Interest	43.03	44.88
TOTAL INCOME	177 822.16	147 511.87
EXPENDITURE		
Salaries (incl. expenses for employer)	84 903.86	82 005.58
Committees and Project Teams	0.00	0.00
Awards	7 852.80	7 421.99
Europhotometeo	0.00	0.00
Workshops	0.00	0.00
Publications	591.62	1 563.27
Honoraries, Fees, Insurances	4 699.16	4 185.16
Travelling	10 278.75	6 709.34
Banking charges	141.78	153.15
Office costs	614.94	681.85
Other costs	0.00	152.82
VAT Other	5 984.09	-0.01
Support Members and topical meetings	0.00	150.00
TOTAL EXPENDITURE	115 067.00	103 023.15
INCOME – EXPENDITURE	62 755.16	44 488.72
Payments on fixed and intangible assets	-9 905.01	-5 616.80
ACCOUNT BALANCE 1 JANUARY	204 881.88	166 099.96
ACCOUNT BALANCE 31 DECEMBER	257 732.03	204 881.88

a. Membership Fee 2020 includes Fees of prior years: 667.47€

b. Associate Membership Fee 2020 includes Fees of prior years: 2 000.00€

c. Other income: tax on license fee Annual Meeting 2019: 8 031.42€

Audit The financial accounts have been audited on 16 July 2020 by the auditor appointed by the EMS General Assembly 2019. The auditor's report is submitted to the EMS General Assembly 2020.

Auditors:

Dipl.-Finanzwirt
Matthias Keil
Wirtschaftsprüfer
Steuerberater
Dr. Broll Schmitt
Kaufmann & Partner
Taubenstraße 20-22
10117 Berlin
Germany

10 Council and Council Bodies

Committee Membership

COMMITTEE ON MEETINGS

Renate Hagedorn (Germany)
Sylvain Joffre (Chair, Finland)
Martina Junge (EMS)
Haleh Kootval (Switzerland)
Gert-Jan Steeneveld (The Netherlands)
Carlo Buontempo (ECMWF)

AWARDS COMMITTEE

Mojca Dolinar (Chair, Slovenia)
Patricia de Rosnay (ECMWF)
Jenni Rauhala (Finland)
Fulvio Stel (Italy)
Manfred Wendisch (Germany)
Carlos Yagüe (Spain)

LIAISON COMMITTEE (UNTIL AUG 2019)

Emily Gleeson (Chair, Ireland)
Hrvoje Bobinac (Croatia)
Sinéad Duffy (Ireland)
Martina Junge (EMS)
Andrea Oestreich (EMS)
Bob Riddaway (UK)
Laura Zubiate, (Ireland/Spain)

MEDIA AND COMMUNICATIONS TEAM

Rasmus Benestad (Norway)
Tanja Cegnar (Chair, Slovenia)
Gerald Fleming (Ireland)
Inge Niedek (Germany)
Jay Trobec (USA, AMS-liaison)

TAA COMMITTEE

Ben Dieterink (Chair, The Netherlands)
Paul Halton (Ireland)
Dominique Marbouty (France)
Robert Mureau (The Netherlands)
Tarja Riihisaari (Finland)
Gerhard Steinhorst (Germany)
Isabella Weger (UK)

EMS Council

From 8 September 2019 Council consisted of the following:

PRESIDENT

Robert Riddaway

VICE-PRESIDENT

Jean-Pierre Chalon

TREASURER

K. Heinke Schlünzen

PERMANENT MEMBERS OF COUNCIL

Jean-Pierre Chalon (Météo et Climat, France)
Shanti Majithia (RMetS, UK)
K. Heinke Schlünzen (DMG, Germany)

ROTATING MEMBERS OF COUNCIL

Zoltán Dunkel (MMT, Hungary)
Sven-Erik Gryning (DaMS, Denmark)
Jordi Mazon (ACAM, Spain)
Panagiotis Nastos (HMH, Greece)
Paulína Valová (SMS, Slovakia)
Saskia Willemse (SGM, Switzerland)

STAFF

Executive Secretary:

Martina Junge

Assistant:

Andrea Oestreich

Tel: +49 – 30 – 838 59431

e-mail: ems-sec@emetsoc.org

The Free University of Berlin

KINDLY HOSTS THE EMS SECRETARIAT

AT THE PREMISES OF THE INSTITUTE FOR METEOROLOGY.

11 EMS Associate Members

INTERNATIONAL ORGANIZATIONS

ECMWF READING, UNITED KINGDOM

EUMETSAT DARMSTADT, GERMANY

COMPANIES

AZERBAIJAN AERONAVIGATIONS AZERBAIJAN

EPSONMETEO ITALY

INNOVATIVE SOLUTIONS FOR INSTRUMENTATION AND SCIENCE
FRANCE

LEONARDO GMBH GERMANY

DTN - METEOGROUP B.V. THE NETHERLANDS

METEOLAB RUSSIA

MODEM FRANCE

SCISYS GERMANY

VAISALA FINLAND

RESEARCH AND EDUCATIONAL INSTITUTES

DEPARTMENT OF HYDROLOGY AND CLIMATOLOGY OF VILNIUS
UNIVERSITY LITHUANIA

NATIONAL & REGIONAL METEOROLOGICAL SERVICES

AGENCIA ESTATAL DE METEOROLOGÍA SPAIN

CZECH HYDROMETEOROLOGICAL INSTITUTE CZECH REPUBLIC

THE DANISH METEOROLOGICAL INSTITUTE DENMARK

DEUTSCHER WETTERDIENST GERMANY

FINNISH METEOROLOGICAL INSTITUTE FINLAND

HUNGARIAN METEOROLOGICAL SERVICE HUNGARY

KONINKLIJK NEDERLANDS METEOROLOGISCH INSTITUUT
THE NETHERLANDS

MÉTÉO-FRANCE FRANCE

MET OFFICE UNITED KINGDOM

METEOSSWISS SWITZERLAND

NATIONAL METEOROLOGICAL ADMINISTRATION ROMANIA

NORWEGIAN METEOROLOGICAL INSTITUTE NORWAY

REGIONAL METEOROLOGICAL OBSERVATORY OF ARPA
FRIULI VENEZIA GIULIA, ITALY

ROYAL METEOROLOGICAL INSTITUTE BELGIUM

SERVEI METEOROLÒGIC DE CATALUNYA SPAIN

SWEDISH METEOROLOGICAL AND HYDROLOGICAL INSTITUTE
SWEDEN

ZENTRALANSTALT FÜR METEOROLOGIE UND GEODYNAMIK AUSTRIA

