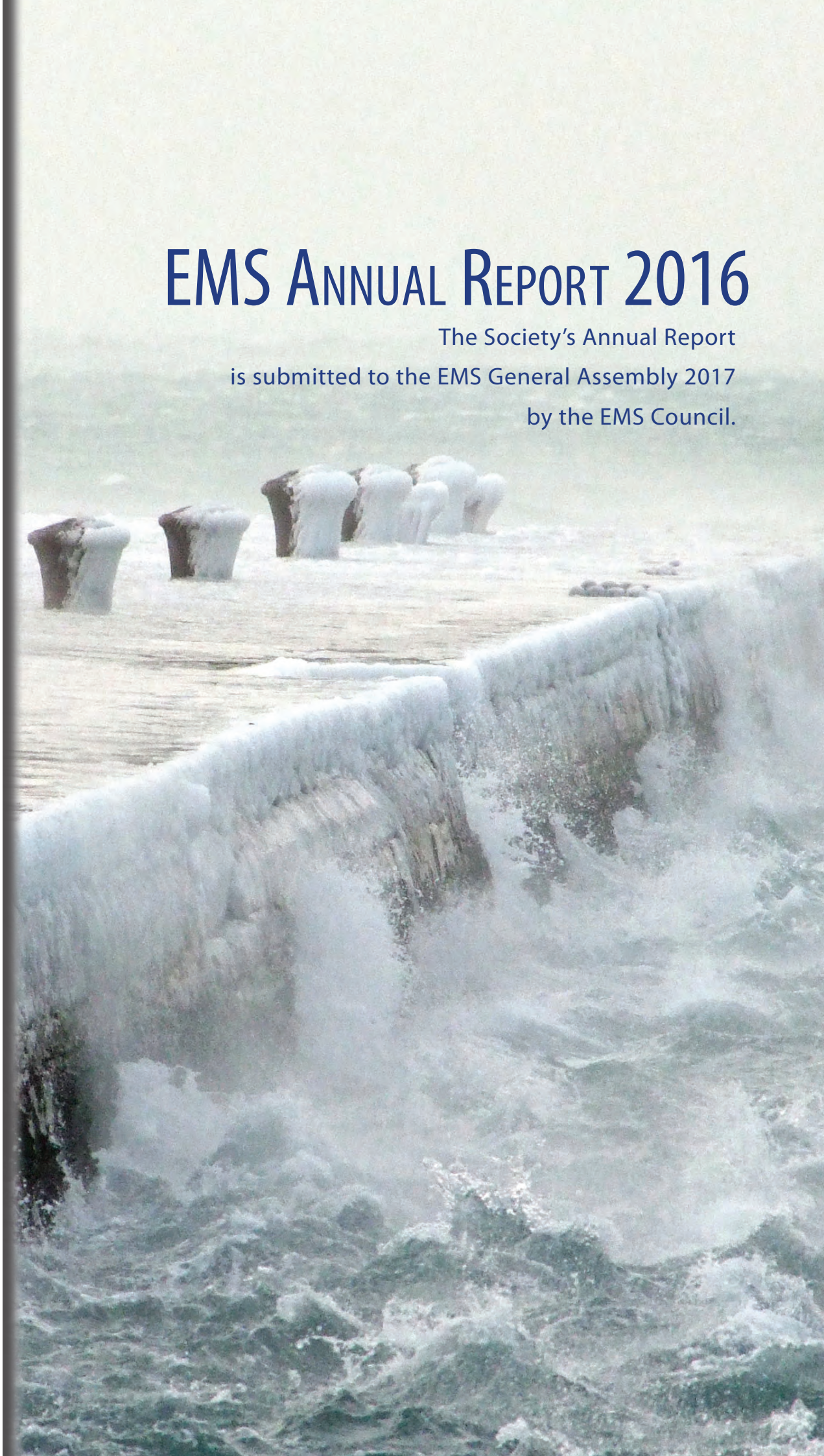




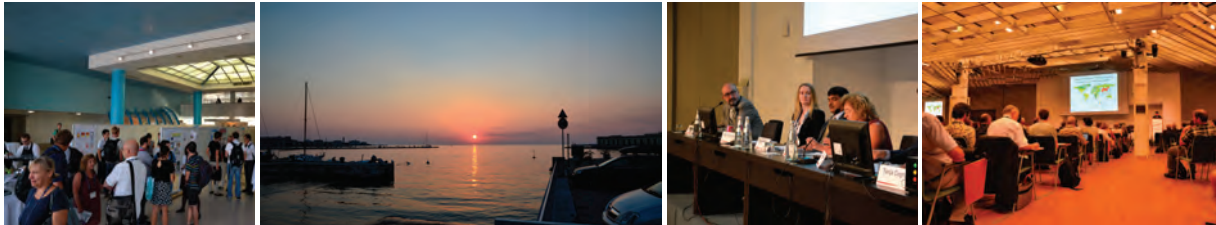
EUROPEAN METEOROLOGICAL SOCIETY

EMS ANNUAL REPORT 2016

The Society's Annual Report
is submitted to the EMS General Assembly 2017
by the EMS Council.



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The EMS Annual Report is published by the
European Meteorological Society (EMS) e.V.

The Cover photo was provided by Renato R. Colucci, Italy;
photos on pages 2, 5, 6, 10 and 13 were taken at the EMS &
ECAC 2016, the photo on page 3 at the EMS & ECAM 2015.

Message from the President

Dear colleagues and friends,

The key element in the in the EMS annual work programme is the planning and implementation of the scientific programme of the EMS Annual Meeting which in 2016 took place in Trieste, Italy, together with the European Conference on Applied Climatology. The Annual Meeting has found its firm place on the calendar of events related to meteorology and climatology. The popularity of these conferences is reflected by a high number of attendance, over 600 mainly from Europe but also from further afield, and an even higher number of good quality oral and poster presentations. Because of the high profile the Annual Meeting has achieved over the years several organisations see the conference as an opportunity to organise side meetings or special sessions to report on their specific activities. Training workshops, usually organised over the weekend preceding the conference and by experts in their fields, have become very popular. The training workshop topics in Trieste were the Weather Forecasting Model (WRF) and Basic Concepts in Data Assimilation.

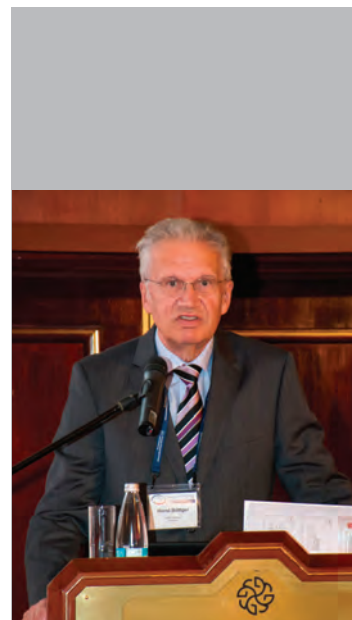
The Awards ceremony continues to be one of the highlights of the Annual Meeting. The additional travel awards for young scientists working in the field of biometeorology kindly funded by the Tromp Foundation and granted for the first time in 2016 gave a significant boost to the EMS awards programme. The Tromp awards complement the Society's prestigious awards programme, including inter alia the Silver Medal, the Media Awards, the Technology Achievement Award. In addition the Harry Otten Award is selected and handed out during the Annual Meeting.

The fourth EMS photo contest, Europhotmeteo 2016, was again a great success. Over 400 photos were submitted, the top ten entries were selected by a jury that involved all Member Societies. Our thanks go to the Spanish Meteorological Society AME which organised the competition. I am looking forward to a fifth EMS photo contest.

Council reviewed the long-term strategy of the Society and developed a Strategic Plan for the period 2016 to 2020. The plan was adopted by the General Assembly at its session in Trieste in 2016. The implementation of the strategic goals will be monitored by Council.

This will be my third and last message for the EMS Annual Report. I would like to thank in particular the EMS Secretariat for their excellent support during my three years in office and also the Council for the fruitful cooperation we had over the years.

Horst Böttger, EMS President



Membership

By the end of 2016 the EMS had 37 Member Societies. In addition, there are 30 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 discussed and advise the Council. Three international organisations (ECMWF, ESA and EUMETSAT) have permanent observer status at the Council.

In 2016, The Institute of Meteorology and Water Management (IMGW), Poland, cancelled its Associate Membership: IMGW had joined the EMS in 2010.

The Italian Associazione Geofisica Italiana has developed a new constitution and decided on a new name: Associazione Italiana di Scienze dell'Atmosfera e Meteorologia (AISAM), under which its EMS Membership will be entered from now.

The Academic Association of Russian Universities in Hydrometeorology (AAH) joined the EMS as Associate Member in spring 2013. Following recent changes of legislation on higher education in Russia, AAH was incorporated into a larger entity of professional Academic Associations (the RF Geosciences Academic Association) and consequently ceased to exist as such. Thus AAH can no longer be considered as EMS Associate Member.

Membership 2016 in numbers

MEMBER SOCIETIES: 37	Number of states		Number of individuals represented		
	30		10425		
ASSOCIATE MEMBERS: 30	National Meteorological and Hydrological Services	Private Service Providers	Manufacturers	Education and Research Institutions	International Organisations
	14	6	6	1	3

General Assembly 2016

The EMS Council met on 11 September 2016 in Trieste for its 35th Session; the 18th General Assembly convened on the same day, following the meeting of the Council.

Strategic Plan: The General Assembly adopted the new EMS Strategic Plan to better meet the challenges for the meteorological and related communities.

Council elections: The following Societies were elected as Member of the EMS Council for the term until 2019: the Irish Meteorological Society (IMS), represented by Paul Halton, and the Associació de Meteorologia i Ciències de l'Atmosfera d'Andorra (AMACA), represented by Josep Tomàs i Bosch. The President Horst Böttger expressed great gratitude to the outgoing Members, Tómaš Halenka as representative of ČMeS, Czech Republic, and Luís Pessanha as representative of APMG Portugal, for their commitment to the EMS and the important contributions they have made to the work of the EMS Council.

Details at <http://www.emetsoc.org/about-ems/council/council-composition/>.

Auditors: The General Assembly appointed BSKP, Dr. Broll Schmitt Kaufmann & Partner Steuerberater – Wirtschaftsprüfer – Rechtsanwälte, Berlin, Germany, as the auditor for the accounts of the year 2016.

Exchange on Activities and Discussions of the Membership: The main part of the General Assembly was devoted to the exchange of information on activities of the EMS Members, as well as a discussion about the problems that organisations are facing and the opportunities for further developments. A specific issue this year concerned certification and accreditation mechanisms in different European countries. Up-to-date information is published on the EMS website.

16th EMS Annual Meeting

The EMS Annual Meeting and the European Conference on Applied Climatology (ECAC) in Trieste, Italy, were attended by more than 600 participants. Many organisations used the opportunity to hold side events or organise workshops during the conference week.

The conference theme, "Where atmosphere, sea and land meet: bridging between sciences, applications and stakeholders", highlighted the relevance of safety, socio-economic impacts and infrastructure investment in connection with extreme events, particularly in coastal areas. To mitigate as far as possible future environmental change and to adapt where necessary, climate change and its impacts must be studied and assessed by considering all these interacting components together. Strategic lectures and many of the discussions reflected the role of collaboration of the entire spectrum of the actors, stakeholders, practitioners and decision makers.

The conference enjoyed a relaxed and productive atmosphere, not least due to the fantastic setting of the conference venue, an embarkment station – where land, sea and atmosphere meet. A heat wave hit Trieste during the conference week, and the start of the conference was marked by a heavy thunderstorm.

The 2016 Conference in short

PROGRAMME: The conference programme consisted of 47 sessions in six programme groups; the recently established group on Measurements and Observations with four sessions included a new "manufacturers' session" in which some of the latest developments in meteorological technology were highlighted. 450 oral presentations and 265 poster presentations were scheduled during the week; 250 of the presentations were uploaded by the authors after the conference and are available from <http://meetingorganizer.copernicus.org/EMS2016/sessionprogramme>. The establishment of poster introductions for all sessions was appreciated by authors. Espresso-talks of 1 or 2 minute length did provide a summary for almost all posters that were presented in Trieste.

PLENARY DISCUSSION: The ECAC Symposium discussed the Role of Climate Science and Services in the process of climate change adaptation and mitigation. Introductory talks provided a glimpse of different visions, approaches and concepts. The speakers and panellists, Antonio Navarra (JPI Climate Governing Board, President of the CMCC), Peter Höpfe (Munich Re, Head Geo Risiko Forschung/Corporate Climate Centre), Ceri J Vincent (Chair CO2GeoNet Executive Committee, Senior Geophysicist British Geological Survey), and Selvaraju Ramasamy (Food and Agriculture Organisation of the UN) discussed questions such as what can actually be inferred from the Paris climate agreement, adopted in December 2015. The agreement sets out an action plan to keep global temperature rise well below 2°C and to consider limiting the increase even further to 1.5°C above pre-industrial levels. Whether this can be achieved was controversial among the panellists as well as the audience. Other questions and issues discussed included:

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



ECMWF took the opportunity of the assembly of the meteorological community at EMS2016 to announce the launch of its new 10 year strategy that sets out the goal to provide forecast information needed to help save lives, protect infrastructure and promote economic development through: i) Research at the frontiers of knowledge to develop an integrated global model of the Earth system to produce forecasts with increasing fidelity on time ranges up to one year ahead, and ii) Operational ensemble-based analyses and predictions that describe the range of possible scenarios and their likelihood of occurrence and raise the international bar for quality and operational reliability.

Exhibition: The exhibition, consisting of four stands in the central foyer, enjoyed plenty of attention during coffee breaks. Kipp & Zonen B.V., manufacturer of radiation measurement equipment, and Scintec AG, manufacturer of remote sensing instruments for wind, temperature and turbulence, provided information about their products and future plans. In addition, the Copernicus Climate Change Service operated by ECMWF exhibited for the first time at the EMS. The publisher and exhibition organiser UKIP Media & Events presented up-to-date information on their latest publications and activities in areas relevant to the participants of the meeting.

Outstanding Poster Award: The Select Committee decided to assign the Outstanding Poster Award 2016 to Julie Berckmans from the Royal Meteorological Institute, Department of Meteorological and Climatological Research, Uccle, Belgium and her co-authors Alexandra-Jane Henrot, Ingrid Jacquemin and Rafiq Hamdi, for their poster "Sensitivity of the regional climate model ALARO-0 to land surface changes". This poster had a very good, innovative scientific content, presented in a clear and concise way. The unanimous view of the selection committee was that the layout of the material was logical, well-structured and very attractive.

The award includes a registration fee waiver for the EMS Annual Meeting 2017 in Dublin. The winning poster, including the citation, can be viewed at www.ems2016.eu/outstanding_poster_award.html. For many years the same committee members in collaboration with a member from the local host community have been doing this tremendous job of looking at all the posters present and evaluating them, always to a very tight timescale.

Participants There were 623 participants from 45 countries (plus 10 media and 4 exhibitors), 63% male, 37% female. The three main categories of attendees were from universities (33%), public/governmental research institutions (32%) and national meteorological/hydrological service (22%). 4.2% come from private service providers.

Training Workshops Two pre-conference training workshops were organised: The workshop on the Weather Forecasting Model (WRF) was organised by Gert-Jan Steeneveld (Wageningen University), Hugo Hartmann (Meteo Group) and Peter Kavala (also Wageningen University); 20 participants were introduced to WRF through lectures and also had opportunities to gain experience through hands-on exercises. The workshops on Basic Concepts in Data Assimilation, organised by Roland Potthast (DWD, Germany), was attended by 15 participants, and consisted of a mix of lectures, discussions and exercises.

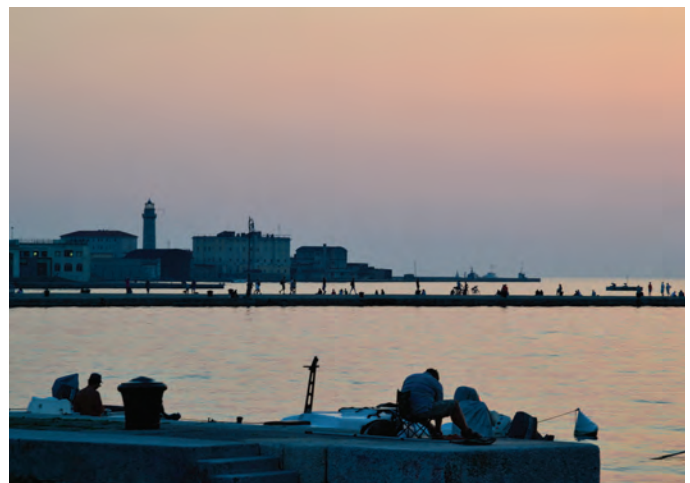
For many of the participants the workshops were an incentive to also attend the conference in the following week. Connected to the WRF Workshop, a new session on WRF was organised within the conference programme and is intended to continue in the next years as forum of exchange.

2017, 2018, 2019 Events

The EMS Annual Meeting in 2017 will be held in Dublin, Ireland, from 4 to 8 September 2017.

Thereafter:

- **2018: Budapest, Hungary: 3–7 September 2018,** Corvinus University
- **2019: Copenhagen, Denmark: 9–13 September 2019,** Technical University of Denmark, Lyngby Campus



Europhotometeo 2016

The fourth EMS photo contest, the Europhotometeo'16, was announced in autumn 2015, and the final results published on 31 March 2016. The EMS invited submission of photos specifically related to clouds or other meteorological phenomena. As for the previous contests, the organisation of the competition was in the hands of the Spanish Meteorological Society (AME). A selection committee, consisting of volunteers from the EMS Members Societies, pre-selected 59 entries for final voting by the jury which was composed of the presidents of all EMS Member Societies plus members of the EMS Council.

444 photos showing meteorological phenomena were accepted for the competition. The winner of the competition was Roibu Grigore with the photo *Clouds coming*. The top ten entries are listed below.

Comprehensive information on the Europhotometeo is available at:

<http://www.emetsoc.org/awards/europhotometeo> and the photo gallery is directly accessible at:

<http://www.emetsoc.org/awards/europhotometeo/europhotometeo16-gallery/>

	First Prize Roibu Grigore <i>Clouds coming</i>		Second Prize Julio Herrera Menéndez <i>Storm</i>	
	Third Prize Esteban Cabrera Mendez <i>Path of trade winds</i>		4th Ignacio Rico <i>Mediterranean Winter Monster</i>	
	5th Dorian Dziadula <i>The perfect supercell</i>		5th Rubén del Campo <i>Asperitas clouds over Tenerife</i>	
	7th Christopher Rutter <i>Cuillin rainbow</i>		8th Xavier Mas <i>Orogenic clouds</i>	
	9th Javier Lozano: <i>Ghost Clouds</i>		10th Juan Ortiz Rivas <i>1000 meters above sea level</i>	



EMS ANNUAL MEETING 2018

European Conference for
Applied Meteorology and Climatology



3-7 September 2018

Budapest, Hungary

SAVE THE DATE

9-13 Sep 2019: Copenhagen

International Collaboration

The EMS as an international organisation strives to maximise the effectiveness of its activities by providing links and exchanging information with other organisations in the meteorological, climatological and related areas.

2016 Highlights

The *EMS TROMP AWARD* was established in 2015 as a collaboration between the Tromp Foundation and the EMS. The Tromp Foundation is funding this new award to promote biometeorology in Europe, given for an outstanding achievement in biometeorology.



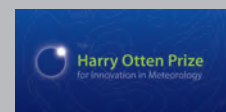
The EMS Tromp Award 2016 was presented to Barbara Templ from Eötvös Loránd University, Hungary, nominated with the paper: "Flowering phenological changes in relation to climate change in Hungary", 2016, published in the International Journal of Biometeorology, DOI 10.1007/s00484-015-1128-1. The award which includes \$US 1,000 and travel expenses to attend the EMS Annual Meeting was handed over at the 16th EMS & 12th ECAC in Trieste, by Wop J. Rietveld of the Tromp Foundation.

In addition, the Tromp Foundation has also provided funding for young scientists to participate in the EMS Annual Meetings and present contributions in the area of biometeorology. Five young researchers were selected:

- Jana Fischereit, Germany: presenting "Assessing uncertainties for the calculation of perceived temperature in an urban environment".
- Michail I. Varentsov, Russian Federation: presenting "Investigation of detailed spatial structure of the Moscow megacity climate features to the newest meteorological observations and regional climate modelling with connection to human comfort".
- Pavel Konstantinov, Russian Federation: presenting "Urban Heat Island's intensity research of Arctic city during winter and its influence on inhabitants' thermal comfort".
- Spyridon Paparrizos, Greece/Germany: presenting "Present and future responses of growing degree days for Crete island in Greece".
- Ajda Valher, Slovenia: presenting "Crop water balance variability".

In January 2016, the Fourth Meeting of the *INTERNATIONAL FORUM OF METEOROLOGICAL SOCIETIES (IFMS)* took place in New Orleans (USA). The main objective of this meeting was to consider a more formal organisation of the IFMS to enable better coordination of activities and become a strong and useful organisation in order to strengthen developing societies, help create new societies, mentor on important issues such as accreditation/certification, training, and best practices. IFMS, through its constituent societies aims to bring the five segments (Public, Private, University, NGO and Users) of the "Future Weather Enterprise" together to cooperate and create bigger value. Following this meeting, an interim Council was established, Europe being represented by the Chief Executive of the RMetS (UK), and a constitution proposal drafted. The IFMS Meeting Five will be hosted by the Hungarian Meteorological Society in Budapest in 2018.

EMS and the *AMERICAN METEOROLOGICAL SOCIETY (AMS)* have agreed to mutually exchange high profile speakers at their respective Annual Meetings. Fred Carr, the 2017 AMS President, gave a strategic lecture at the Opening of the EMS Annual Meeting in Trieste, on *Analysis, Prediction and Observing Systems Experiments for an Urban Testbed in Dallas/Ft. Worth*. The EMS delegated the chair of the Media Team, Tanja Cegnar, to present the Media and Outreach Activities and Networks in Europe in a *Presidential Town Hall Meeting*.



Outreach & Media

The Media Team investigates the way presentations have an impact on the public, serves as a forum for exchange of experience between meteorologists working in the media in different countries, and cooperates with weather presenters that are members of the AMS, IABM, the WMO expert team and other organisations.

2016 Highlights

Media Awards

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

The *EMS Outreach & Communication Award 2016* was



Thomas Wostal (ZAMG) receiving the award certificate from the EMS President

presented to the *Science Park of the Austrian Central Institute for Meteorology and Geodynamics (ZAMG)* for its success in providing a sophisticated educational experience, its breadth of appeal to a wide target

group ranging from small children and students to scholars and interested citizens, and its instructive presentation of the science using interactive tools aimed at increasing interest and awareness for a subject of importance to society. The project is designed as a long-term endeavour, and already being expanded to additional locations across the country. The main aim of the new Science Park of ZAMG is to offer a state-of-the-art science communication (hands-on, minds-on) in the areas of weather, climate, environment and geophysics at ZAMG's offices.

The *Sandscape* project received an Honourable Mention for its innovative, clever, interactive and visually stimulating approach, which combines hands-on demonstrations, entertainment and plenty of fun in order to increase public interest and awareness. Sand sculptors, while creating a landscape, reflected on what makes a healthy city, discussing with the scientists how the natural and built environments influence air quality and circulation and how this impacts our health.

Lieutenant Colonel Guido Guidi of the Italian Air Force Weather Service has been selected to receive the ***EMS Broadcast Meteorologist Award 2016***.

He is a weather forecaster on RAI1 and RAI2, the major public television. Throughout his career as TV weather forecaster he has always proved deep commitment paired with extremely high communication skills. His extraordinary dialectics and his deep preparation have always guaranteed a correct information.

Fourth European Communications Workshop for NMHSs

The workshop was held on 12 and 13 September 2016 in Trieste, alongside the EMS & ECAC. Organised by the WMO, EUMETSAT, ECMWF and EMS, the workshop was attended by communication specialists from European meteorological services and other organisations, broadcast meteorologists and climatologists.

The workshop covered such diverse topics as weather preparedness and climate resilience, multi-hazard impact-based forecasts and warnings, The Paris Agreement, climate communications and innovative ways of engaging the public, especially young people and children. All sessions were organised as panel discussions; in addition, one entire session was dedicated to a discussion on generating content for social media, websites, animations, videos.

Publication

A USB card with material on developments in broadcast weather forecast techniques and communication to the general public was produced by the Media and Communication Team. It includes the presentations given at the Media session of the EMS Annual Meeting in Trieste, as well as those presented given during the Fourth European Communications Workshop for NMHSs. The card was distributed to communication professionals involved in meteorology and climatology, mainly in Europe, and participants of the Media and Communication sessions. It can be requested directly from the EMS.

Communication and Publications

The main objective of communication and publication activities is to share information on the activities of EMS Members, provide examples of good practice and facilitate the sharing of experience and exchanging of ideas between the Members. The channels of communication include the website, an electronic newsletter, Annual Reports and the annual DVD – now replaced by a USB card – on media and communication; activities using social media networks have been developed over recent years.

The General Assembly also plays an important role in the exchange of information.

The Editorial Board oversees these publications. Short conference papers of the EMS Annual Meetings are published in *Advances in Science and Research*.

Website and Social Media

The most important tool of communication between EMS and its Members is the EMS website emetsoc.org. It also 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 links where to find more details.
- News section dedicated to the activities of Member organisations.
- Photo galleries of the EMS photo competition Europhotometeo.
- Many resources and links, plus announcements of awards and job opportunities.

The EMS also posts information on current activities on

- Facebook: <https://www.facebook.com/EuropeanMetSociety> and
- Twitter: <https://twitter.com/EuropeanMetSoc>.

Streams of conference sessions are available on > YouTube.

ems-message

The ems-message is an e-mail newsletter that highlights the latest news items on emetsoc.org. It provides topical information about the activities of EMS and its Members, job announcements, upcoming conferences, and announcements and deadlines related to EMS awards. Subscription 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*, the Open Access Proceedings of the EMS. Submissions to this journal undergo a peer-review. Convenors of sessions at the EMS & ECAC 2016 volunteered as guest editors for their specific topics.

Citation index: Articles of *Advances in Science and Research* 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. All conferences (edition to edition) are evaluated individually regarding their inclusion.



Awards

The Awards Programme of the EMS honours outstanding achievements of meteorologists through the EMS Silver Medal 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 the EMS Annual Meetings, and the Outstanding Contribution Award highlights important contributions to the development of the Society. In 2015 the EMS Technology Achievement Award was launched and the first award presented in 2016.

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 their work, exchanging information and developing expertise. In 2016, the EMS funded 11 Young Scientist Travel Awards for participation in eight events. These have supported young scientists from ten countries: Croatia (1), Czech Republic (1), Cyprus (1), Denmark (1), Germany (1), Hungary (1), Israel (1), Italy (2), Russian Federation (1) and Romania (1). Two poster awards were given at the ESA Earth Observation Summer School. Reports provided by award recipients are available at <http://www.emetsoc.org/awards/travel-awards/>.

10th International Conference on Air Quality

Milan, Italy

- Despina Giannadaki, The Cyprus Institute, Energy Environment and Water Research Center – Climate group, Nicosia, Cyprus
Public health gains from strict regulations on fine particulate air pollution.

DACH Conference

Berlin, Germany

- Stephanie Hänsel, Technische Universität Bergakademie Freiberg, Germany
Evaluating the impact relevance of drought indices

17th Conference on Mountain Meteorology

Burlington, USA

- Ivana Marinović, Department of Geophysics, Faculty of Science, University of Zagreb, Croatia
Surface energy balance closure in the Owens Valley.

8th Earth Observation Summer School (Poster)

Frascati, Italy

- Stefanie Feuerstein, Leibniz Institute for Tropospheric Research, Leipzig, Germany
- Panagiotis Sismanidis, National Technical University of Athens, Greece

ECMWF Annual Seminar

Reading, UK

- Paolo Ruggieri, University of L'Aquila, Italy

EMS Annual Meeting and ECAC 2016

Trieste, Italy

- Olga Antokhina, V.E. Zuev Institute of Atmospheric Optics Tomsk, Russian Federation
The impact of atmospheric blocking in Western Siberia on the methane emissions in summer.
- Lukáš Dolák, Masaryk University Brno, Czech Republic
Hydrometeorological extremes and their impacts in the Jihlava region (Czech Republic) in the 1651–1880 period.
- Jorge Parages, Ca' Foscari University, Venice, Italy
ENSO influence on the North Atlantic European climate: a non-linear and non-stationary approach.
- Gabriella Zsebeházi, Hungarian Meteorological Service, Budapest
Sensitivity of the SURFEX land surface model to forcing settings in urban climate modelling.
- Jianting Du, DTU Denmark, Roskilde
Roughness length for coastal waters from wave boundary layer model.

2016 EUMETSAT Meteorological Satellite Conference

Darmstadt, Germany

- Eduard Luca, National Meteorological Administration, Bucharest, Romania
The use of ADAGUC for MSG RGB products visualization at the Romanian National Meteorological Administration.

European Conference on Radar in Meteorology and Hydrology

Antalya, Turkey

- Francesco Marra, Hebrew University of Jerusalem, Israel
Intensity-Duration-Frequency curves from radar estimates in a range of climatic regimes.

EMS Silver Medal

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

The laudatio was delivered by Ivan Čačić, President of WMO RA VI. Michel Jarraud gave a Silver Medal Lecture entitled: “*Meteorology and 21st century challenges*”. The video of Michel Jarraud’s lecture is accessible on > YouTube.

Technology Achievement Award

The EMS Technology Achievement Award was established with the aim to acknowledge and highlight achievements that are influential on developments of technologies and technical solutions in meteorology and related areas. The first Technology Achievement Awards were assigned to two projects: *MARS*, the Meteorological Archival and Retrieval System developed at the European Centre for Medium-Range Weather Forecasts, and the Distributed “real-time” Environmental Measuring System developed at the Slovenian Environment Agency within the EU project BOBER (Better Observations for Better Environmental response).

MARS, chiefly developed by Baudouin Raoult and Manuel Fuentes together with other members of the *MARS* team over the years, is recognised for a unique approach to meteorological data storage and retrieval technology. The main achievement associated with *MARS* is that this system has stood the test of time as a result of continuous development. More than thirty years after it was created, *MARS* remains at the cutting edge of meteorological data storage and retrieval, with a user base that extends well beyond ECMWF to other centres and the wider meteorological and climatological community.

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

Young Scientist Award

The Young Scientist Award 2016 was presented to Giovanni Tumolo, International Centre for Terrestrial Physics, Trieste, Italy, for his publication entitled: “A semi-implicit, semi-Lagrangian discontinuous Galerkin framework for adaptive numerical weather prediction”, G. Tumolo and L. Bonaventura; Q. J. R. Meteorol. Soc. 141: 2582–2601, October 2015 A DOI:10.1002/qj.2544. Giovanni Tumolo gave a Young Scientist Award Lecture entitled “A *p*-adaptive approach for high order numerical weather prediction” at the EMS Annual Meeting in Trieste.

The presentation of all awards took place during the Awards Session at the EMS & ECAC in Trieste on 13 September 2016; the Stream can be viewed on the EMS YouTube Channel.

Award Presentations at the EMS Annual Meeting



Michel Jarraud receiving the Award certificate from Horst Böttger.



The recipients of the Technology Achievement Award receiving the certificates: *MARS* represented by Baudouin Raoult and Manuel Fuentes (above) and Bojan Černac.



Tromp awards being presented by Tanja Cegnar and Wop J. Rietveld.



The Young Scientist Awardee Giovanni Tumolo receiving the award certificate

Our Resources - Financial Accounts 2016

The balance as at 31 December 2016 has decreased by 15 227.02€ as compared to 31 December 2015.

Summary Statement of Financial Activities for the Year 2016:

All financial figures are given in Euro.

	2016	2015
INCOME		
Income Societies Membership Fees	19 732.85	19 685.01
Income Associate Membership Fees	36 590.00 ^a	39 000.00
Annual Meeting license fee	32 152.87	49 665.80
Other	2 250.70 ^b	3 476.60
Interest	38.08	117.20
TOTAL INCOME	90 764.50	111 944.61
EXPENDITURE		
Salaries (incl. expenses for employer)	78 291.10	76 352.78
Committees and Project Teams	0.00	237.37
Awards	7 276.89	5 416.58
Europhotometeo	2 469.04	0.00
Workshops	0.00	0.00
Publications	667.52	85.62
Honoraries, Fees, Insurances	4 988.76	4 412.88
Travelling	11 751.69	9 779.61
Banking charges	25.20	25.20
Office costs	521.32	789.58
Other costs	0.00	45.66
VAT Other	0.00	1 766.20
Support Members and topical meetings	0.00	0.00
TOTAL EXPENDITURE	105 991.52	98 911.48
INCOME – EXPENDITURE	-15 227.02	13 033.13
Payments on fixed assets	0.00	- 2 440.83
ACCOUNT BALANCE 1 JANUARY	129 883.77	119 291.47
ACCOUNT BALANCE 31 DECEMBER	114 656.75	129 883.77

a. Associate Membership Fee 2016 includes Fees 2017: 200.00€

b. Other income: tax on license fee Annual Meeting 2016: 2 250.70€

Audit The financial accounts have been audited on 14 June 2017 by the auditor appointed by the EMS General Assembly 2016. The auditor's report is submitted to the EMS General Assembly 2017.

Auditors:

BSKP
Dr. Broll Schmitt
Kaufmann & Partner
Steuerberater –
Wirtschaftsprüfer –
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Taubenstraße 20-22
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Germany

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CHAIR PROJECT TEAM EDUCATION

Tómaš Halenka
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STAFF

Executive Secretary:
 Martina Junge
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*THE FREE UNIVERSITY OF BERLIN
 KINDLY HOSTS THE EMS SECRETARIAT
 AT THE PREMISES OF THE
 INSTITUTE FOR METEOROLOGY.*

**EUROPEAN METEOROLOGICAL SOCIETY**

registered: Vereinsregister Amtsgericht
 Berlin-Charlottenburg VR 21170 B

Auditor:

BSKP
 Dr. Broll Schmitt
 Kaufmann & Partner
 Steuerberater – Wirtschaftsprüfer –
 Rechtsanwälte
 Taubenstraße 20-22
 10117 Berlin
 Germany

Bank Account:

Deutsche Bank
 BIC/SWIFT DEUTDE33
 IBAN DE84100700240881777700

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