In the centre of Europe more than 600 people from all sectors of meteorology, climatology and related disciplines met in Zürich in September this year to present and discuss the latest developments in their field. A particular focus of the EMS Annual Meeting and European Conference on Applied Climatology was the relevance of results and products for society and how these can be transformed into useful and accessible services.

The Opening Session highlighted the challenges and achievements, as well as the problems and the vision for future developments. The webcasts of the strategic lectures of the opening session are available: www.multimedia.ethz.ch/conferences/2010/emsecac

The president of the hosting Swiss Society for Meteorology, Markus Furger (left), explained to the audience the relation between forecasts that are 100% correct and those that are completely useless. He illustrated the concept with the allegory of the rooster - subsequently presented to the EMS President, Fritz Neuwirth (right):

3.5 kg of genuine Swiss chocolate. Markus’s considerations can be followed at the webcast of the opening session.

A full day was dedicated to the presentation of projects and activities throughout Europe (and beyond) that strive to bridge the gap between the available knowledge on climate change and the practical use in strategic planning on local, regional, national and international levels.

Media Awards 2010

During the EMS Annual Meeting & ECAC the EMS Media Awards 2010 were presented. A Webcast of the Award ceremony is available at multimedia.ethz.ch/conferences/2010/emsecac

The EMS Broadcast Meteorologist Award was presented to Bengt Lindstroem, Sweden.

The EMS Outreach & Communication Award was presented to the project Météo-Jeunes Regional Meetings, France.

The EMS TV Weather Forecast Award was presented to Florin Busuioc, Pro Tv, Romania.

Florin Busuioc’s broadcast is accessible at the emetsoc-Best-Practice site.

Young Scientist Award 2010

The recipient of the EMS Young Scientist Award 2010 is

John Marsham, University of Leeds, UK.

He is honoured for his two papers:

Variable cirrus shading during CSIP IOP5: Effects on the convective boundary layer, and Variable cirrus shading during CSIP IOP5: Effects on the initiation on convection, that demonstrate his versatility in using both observations and models.

John Marsham’s website: homepages.see.leeds.ac.uk/~lecjm

Where was David Burridge?

>>>read on on page 8

Young Scientist Travel Awards for the EMS&ECAC in Zürich

10 YSTAs were given at the EMS&ECAC 2010, jointly funded by EMS and SGM.

See the awardees’ impression of the conference: www.emetsoc.org/awards/ystas_2010.php,
New Council representatives elected at EMS General Assembly

Dagmar Kotlarikova (Slovak Meteorological Society) Olivija Morell (Meteo Mak) and Constanta Boroneant (Romanian Meteorological Society) have been elected by the 12th EMS General Assembly as representatives on the EMS Council until autumn 2012.

Dagmar Kotlarikova graduated in physics and radar meteorology at the Faculty of Mathematics and Physics of Comenius University, Bratislava, in 1978 and subsequently joined the Radar and Satellite Department at the Slovak Hydrometeorological Institute in Bratislava, where she still works today.

Dagmar’s primary interest is in statistical processing of radar data with the aim to determine hazardous phenomena and the scales for different intensity of rain using radar data. She has contributed to projects such as PADRE (Polarization and Doppler Radar Experiment), COST 75 (Advanced Weather Radar Systems), RADHYD and CEI Nowcasting. Since 1992 Dagmar has been involved in the European project LGOE-WRN (Liaison Group on European Weather Radar Networking, renamed in 1999 as OPERA I, II, III – Operational Weather Radars). Also from 1999 to 2004 she was a member of the Slovak Commission for Research and Peaceful Use of Space, and since 1999 has been a member of the COSPAR National Committee.

Olivija Morell graduated in meteorology in 1984 from “Kiril and Methodius” University, Skopje and worked at the Computer Science Department of the Hydro-meteorological Institute from 1984 until 2006. Her main interest is in biometeorology. Olivija has participated in several projects concerning climate and human health, urban area and health effects.

Since 2006 Olivija has been working with the French association “Balkan Institute for Water and Environment - IB2E” as Executive Secretary and member of the Steering Committee. As President of the Meteorological Association “Meteo Mak” in the former Yugoslav Republic of Macedonia, together with IB2E, she is responsible for the local organisation of the biennial BALWOIS conferences (www.balwois.com).

Olivija aims to involve Meteo Mak in international activities as much possible, through cooperation and exchanges with organizations that have similar interests, nationally or internationally. Her hobby is silk painting inspired specially from the portraits of African women (www.olivija.info).

Constanta Boroneant is the Vice President of the Romanian Meteorological Society. She holds a PhD in Physical Science and is a graduate of the University of Bucharest, Faculty of Physics, Department of Atmospherics and Meteorology. She has been working at the National Meteorological Administration in the Climate Research Department where she coordinated and participated in several national and international research projects mostly related to climate change and its impacts. Her main interest and expertise is climate variability and change at regional and local scales. She has been acting as a member of the Expert Team on Observing Requirements and Standards for Climate in the Commission of Climatology of the WMO and as an expert reviewer for IPCC TAR and AR4.

EMS Membership

The Institute of Meteorology and Water Management (IMGW), Warszawa, Poland, has joined the EMS as an Associate Member. Both the General Assembly and the Council welcomed the IMGW, and expressed its delight in extending the network of the meteorological community in Europe.

Lukasz Łegutko, Vice-Director of the IMGW, attended the General Assembly and conveyed a letter from Mieczyslaw S. Ostojski, Director General of IMGW, in which he expressed his expectation for a fruitful collaboration with benefits for the whole meteorological community, and IMGW’s commitment to contribute to its further developments and success.

The Italian Member Society SIMA will be dissolved, thus its EMS Membership ends.

The French company Degreane Horizon has cancelled Associate Membership of the EMS.

Change of the constitution of the EMS

The 12th General Assembly has voted for the following changes in the constitution:
- the institutions eligible for Associate Membership now explicitly include research and education institutes and departments
- the number of Vice Presidents was reduced from three to one, in addition the office of the Treasurer was...
separated from that of Vice President. Both the Vice President and the Treasurer are now elected for three years (instead of one).

- the elected president automatically becomes a member of the EMS Council.

- Support for EMS Members and their meeting activities – report from a meeting in September

A meeting took place in Zürich on 12 September 2010 between representatives of EMS Member Societies and the EMS Committee on Meetings (CoM). Also present were the EMS President and the Treasurer (19 participants).

CoM had invited EMS Members to this meeting to get a better understanding of how EMS can support its members in developing their meeting activities. In particular, rather than developing more meetings, the EMS aims to support smaller existing meetings on specific topics and develop their European dimension.

From the beginning it was noted that Members hold national meetings that are country specific and organised in the native language. It was clarified that EMS has no role in such meetings and has no intention of getting involved. Instead, the EMS through the Secretariat and the CoM offers to provide support for meetings initiated by one Member or a group of Members that may have a specific focus and may be of wider interest. Examples of topics addressed in such meetings are alpine and Carpathian meteorology, Mediterranean meteorology or polar meteorology. These meetings may be of regional interest but need not be limited as such.

EMS support can be provided in several ways: sponsoring the event (e.g. EMS logo in the programme booklet giving the EMS seal of approval), advertising the meeting on the EMS web site, providing limited travel funds for selected participants, or imparting logistic advice.

Members expressed interest in the CoM proposal and suggested that EMS should develop and make available to Members a set of criteria specifying the types of meetings that would be supported.

I am pleased to say that our campaign has already come to some fruition. During the EMS conference we had the first enquiry from Croatia concerning the sponsoring of a national meeting later in the year.

Horst Böttger, Chair CoM.

- Activities of EMS Members

- 7th International Weather Forum

The 7th International Weather Forum was held in the heart of Paris in a large marquee located in front of the Town Hall and gathered more than 8,000 visitors, including many children. During four days, from 21 to 24 October 2010, educational and interactive animations were made available to the public through five thematic areas: Weather-Climate, Energies, Environment, Space and Water (new theme this year).

In parallel, professional days were held from 20 to 22 October inside the Town Hall. On the 20th, training in meteorology and climate was provided to school teachers and had about one hundred participants.

The following day there was a Symposium on ‘Floods as a major social and economical stake’; this included several roundtable discussions with speakers from various countries (France, United-States, Germany, Switzerland, Benin, Czech Republic, The Netherlands etc.).

The 22nd was dedicated to ‘Weather and the Media’. More than 60 weather presenters took part in workshops and debates. For the first time a training session was organised with the support of WMO for weather presenters from Least Developed Countries.

To end the 7th Forum, weather presenters from all over the world participated with Parisians in the 3rd Green Ride, a bike ride through Paris, whose aim is to militate in favour of CO2 emissions reduction.

More information (in English) and pictures are available at www.smf.asso.fr/fim10_en.html.

Morgane Daudier, Public Relations Officer, Société Météorologique de France.

- SGM Honorary Membership for Hans Richner

The Swiss Society for Meteorology (SGM) has nominated Prof. Dr. Hans Richner as its Honorary Member in recognition of his outstanding and long-lasting commitment to the society.

Hans Richner served as SGM committee member in the 1990s, the period culminating in his presidency from 1999 to 2003. During that time the membership numbers increased by about 20%.

Furthermore he was a key figure in the (re-)establishment of the new Meteorologische Zeitschrift in 1992 as a joint publication of DMG, ÖGM and SGM. He served and still serves the EMS in the Committee on Meetings and the Awards Committee.

Hans Richner was also the head of the Local Organizing Committee of the EMS/ECAC 2010 in Zürich.

The nomination took place during the general assembly of SGM in Fribourg.
The annual meeting of SGM featured the general assembly and a one-day symposium on ‘Meteorology and Climatology’ within the Swiss Geoscience Meeting 2010. geoscience-meeting.scnatweb.ch/sgm2010.

RMetS launches the Weather Club

The Royal Meteorological Society (RMetS) launched ‘theWeather Club’ in September 2010.

Dr Liz Bentley, founder theWeather Club, said: “theWeather Club is for all those who appreciate the weather for all its wonders. Its beauty, its power, its fragility, its occasional absurdity, and deep fundamental influence it has upon us all. It will allow us to come together and share our obsession with the weather.” To find out more about the Weather Club visit www.theWeatherClub.org.uk.

Autumn School for High School Teachers

The German Meteorological Society (DMG) and the German Geo Research Centre in Potsdam (GFZ) have been running a annual series of Autumn Schools intended for science teachers, the first taking place in 2002. In the past between 80 to 150 participants attended the events.

In November 2010, the 9th Autumn School was organised at the Einstein Centre, Potsdam, a Campus that hosts a number of research institutions. The topic of this year’s school was ‘Earth and Climate, Energy and Life in the Earth System’. During two days, nine lectures were given. Additionally a workshop on Pupils’ perceptions of global warming – chances and stumbling blocks in teaching Geography was held. Gertrude Rohwer, from the Earthlab of the FU Berlin, reported on her experience: 15 year olds mostly know very little about climate change. When they are asked whether the ozone hole leads to trapping sunshine in the atmosphere or not, about half of them (nearly 100 pupils) say yes. Such misconception are often prevalent and can be changed by the teacher only with special emphasis. Other lectures covered Climate Changes Tectonics – the interaction between tectonic and climatic processes, for example precipitation ensuing debris washed into the sea controlling the subduction orogeny.

Prof. Bernd Hillemeier, TU Berlin, provided a lecture on handling water, describing the implementation of geothermal energy (water) as heat source for the Reichstag in Berlin. Also, he and his co-workers recently constructed new concrete tubes coated with very thin glass for the highly aggressive sewage waters.

A rather new energy resource is shale gas. M. Schulz from GFZ showed the possibility to extract gas from hard rock by "hydrofracture", i.e pumping water in the shale gas area which cracks the rock and releases the gas. This is a very effective way in winning large amounts of gas for a period of about 30 years. The conventional winning of gas is completely different as it needs a reservoir. The unconventional method is much more effective as it can resolve nearly all gas in the relevant layer. But pumping a large amount of water and unfasten the rock may mean danger in future.

The abstracts (German) of all autumn schools 2002 to 2010 are available at www.dmg-ev.de/gesellschaft/aktivitaeten/herbstschule.htm
Community effort to digitize precious historical climate data

Scientists are inviting weather enthusiasts to volunteer

Weather extremes such as the heat wave experienced during last summer in Russia or the flooding in Pakistan often have devastating consequences for the people affected. Information about extreme weather events in the past might help to take more effective precautionary measures for future events.

Unfortunately the relevant meteorological long-term data are often not readily available. Weather observations and quantitative measurements have been taken for a long time at many places on the globe. However, in most cases only the records from the last 50 to 60 years have been digitised. Large amounts of non-digitised written or printed material slumber in various archives around the world – nobody knows exactly how much.

In the recent years, the need for information on weather extremes has grown considerably. The development of new techniques has made it possible to produce reasonable analyses of past states of the atmosphere from a number of single observations, even if these are relatively scattered in time or limited to one level, e.g. the Earth’s surface. In the light of this development, the old meteorological data gain enormously in importance. Nevertheless, tracking down, cataloguing, scanning and digitising of all holdings remains a gargantuan task.

To facilitate at least the step of digitisation, the climatology group of Prof. Stefan Brönnimann, based at the Oeschger Centre for Climate Change of the University of Bern, makes use of the voluntary help of internet users who are willing to contribute to the international data rescue efforts by typing clippings of data sheets online. In return, the digitised and quality controlled data is made available to the public. Everybody who wants to support the scientists’ look back into the past will find all relevant information on www.data-rescue-at-home.org.

Stefan Brönnimann, initiator of the innovative project, expects that the cooperation with the voluntary assistants from the web community interested in weather and climate will fill important gaps. This will lead to a more complete and longer data basis for atmospheric science and therewith to improved forecasts of future extreme events. Simultaneously, the web aides can experience how science works and will hopefully be sensitised for active research.

www.data-rescue-at-home.org/
Contact: Prof. Stefan Brönnimann, Oeschger Centre for Climate Change Research and Geographical Institute of the University of Bern, Hallerstrasse 12, 3012 Bern, phone: 031 631 88 85, e-mail: stefan.broennimann@giub.unibe.ch.

► APMG Symposium 2011

The Portuguese Associação Portuguesa de Meteorologia e Geofísica (APMG) will organise the 7th Symposium on Meteorology and Geophysics from 20 to 30 March 2011 in Setúbal near Lisbon. The Symposium will be co-organised with the 12th Luso-Spanish Meeting on Meteorology and the XIV Latin American and Iberian Congress on Meteorology.

The thematic focus of the meetings will be on Forecasting and Modelling in Geophysical Sciences.

The announcement fler is available from the emetsoc.org conference calendar; updated information on the programme will be available at www.apmg.pt

Papers may be presented in Portuguese, Spanish or English, the deadline for abstract submission is 7 January 2011.

► DACH 2010: Researchers, teachers and students discuss Weather-Climate-Energy

The German, Austrian and Swiss Societies for Meteorology invited the German-speaking meteorological community to the triennial DACH conference. From 20 to 24 September 2010, 450 scientists met in Bonn, Germany, to discuss recent developments in meteorology under the focal theme weather-climate-energy.

The former Kurfürstliches Schloss, now the University’s main building, provided an excellent venue. The Meteorologisches Institut as local host was supported by the Department for Geophysics and Meteorology, as well as the German Weather Service, DWD, in the local organisation.

In 14 sessions more than 350 contributions were presented and discussed. The presentations covered a wide range of topics from interactions between biosphere and atmosphere, the chemistry of the atmosphere to newest developments in weather forecasting and modeling, as well as statistical evaluation of extreme events.
**Scientific Conference of the Croatian Meteorological Society**

The Croatian Meteorological Society (CMS) marked its 45th anniversary with a scientific-professional conference under the theme *Present day challenges in meteorology* from 9 to 10 November 2010 in Zagreb, Croatia.

The main objective of this conference was to exchange scientific results and to communicate to the public the role that meteorology plays in the modern age.

The CMS recognizes effective communication as an important factor between the scientific community and the public. It is a first step towards the improvement of scientific research, education as well as providing the best service for the final user.

There were 36 oral presentations and 16 posters, divided in sections:
- Atmospheric boundary layer and turbulence
- Synoptical meteorology
- Climatology
- Agrometeorology
- Air quality
- Popularization of meteorology

The programme included three invited lectures that were given by Mirko Orlić, Faculty of Science, Department of Geophysics, Zagreb, Croatia; Branimira Lalić, Faculty of Agriculture, Novi Sad, Serbia; Iva Kavčič, College of Engineering, Mathematics and Physical Sciences, University of Exeter, UK. Two of these were partly supported by the EMS.

Colleagues from Slovenia, Bosnia and Herzegovina and Serbia participated in the meeting, appreciating the improvement of regional cooperation. CMS will publish a special issue of the Croatian Meteorological Journal dedicated to this conference.

**150 years of meteorological measurements in Bulgaria and 120 years Bulgarian Meteorological Service**

A ceremony on 8 November 2010 in Sofia, with 200 participants from the meteorological and related community in Bulgaria, marked 150 years of continuous meteorological measurements in Bulgaria and 120 years Bulgarian Meteorological Service.

Guests of honour included the Vice-Chair of the Bulgarian National Assembly, the Bulgarian Minister of Environment and Water, the President of the Bulgarian Academy of Sciences, the Secretary-General of WMO, the Directors of the National Meteorological Services of Austria, Turkey, Serbia and the Former Yugoslav Republic Macedonia, Representatives of the Russian Federal Service for Hydrometeorology and Environmental Monitoring.

EMS was invited to deliver an address in the official ceremony, and the President conveyed the best wishes of the European meteorological community to these important anniversaries.

It is of interest that the first instrumental meteorological measurements started at the Austrian Consulate in the city of Ruse in Bulgaria with the purpose of providing meteorological information for shipping on the Danube river. The first meteorological station in Sofia, the capital of Bulgaria, started with regular meteorological observations in the garden of the embassy of the Austrian-Hungarian Monarchy. On 20 February 1890 the measurements in Sofia were taken over by Bulgaria and this date is considered as the birthday of the Bulgarian Meteorological Service.

Nowadays the Bulgarian National Institute of Meteorology and Hydrology (NIMH) is part of the Bulgarian Academy of Sciences with about 700 employees. As a modern National Meteorological Service it delivers essential products to the public and the economy of Bulgaria and is an important research organisation, that is well integrated in the European meteorological community.

More information about NIMH can be found at www.meteo.bg.

**NEWS**

**Workshop on how to become a TV weather forecaster**

Along with the conference, CMS organized a contest for the best photo related to meteorology. Around 230 photographs were submitted to the contest. The Organising Committee selected the three best photos. All photos were presented during the Conference. The first prize for the best meteo-photo was 1000 HRK, second and third prize included 700 HRK and 300 HRK respectively.
Greenhouse gases reach record levels

The main greenhouse gases have reached their highest levels recorded since pre-industrial times, according to the WMO’s 2009 Greenhouse Gas Bulletin. The report also highlights concerns that global warming may lead to even greater emissions of methane from Arctic areas.

According to the Bulletin, total radiative forcing of all long-lived greenhouse gases increased by 27.5% from 1990 to 2009 and by 1.0% from 2008 to 2009, reflecting the rising atmospheric burdens of carbon dioxide, methane and nitrous oxide.


New directors of National Meteorological and Hydrological Services in Europe

ZAMG, Austria: Michael Staudinger
DWD, Germany: Gerhard Adrian
HNMS, Greece: Loukas Assimakis
MeteoAM, Italy: Constante de Simone
AeMET, Spain: Ricardo Garcia Herrera
SML, Luxembourg: Claude Sales
MeteoSwiss, Switzerland: Gerhard Müller

Meteorological Technology World Expo 2011

18 – 20 October 2011
Brussels, Belgium

This is an international exhibition of the latest climate, weather and hydrometeorological forecasting, measurement and analysis technologies and service providers. Attendance is completely free for anyone within the worldwide meteorological community – people working for national Met offices and societies, research institutes, within aviation, ports, offshore wind etc.

To exhibit at the show: www.meteorologicaltechnology-worldexpo.com/contact.php

To register for a free visitor pass: www.meteorologicaltechnology-worldexpo.com/visitor_pass.php

APHRODITE precip product

APHRODITE’s Water Resources project has just released a new version of daily grid precipitation product version V1003 for Monsoon Asia (MA) and Middle East (ME). www.chikyu.ac.jp/precip/

New TEOS-10 definition of sea water

The SCOR/IAPSO Working Group 127 on the ‘Thermodynamics and Equation of State of Seawater’ has recommended the adoption of a new thermodynamic description of the properties of seawater, called the International Thermodynamic Equation Of Seawater – 2010 (TEOS-10 for short). This thermodynamic description of seawater properties, together with the Gibbs function of ice, has been endorsed by SCOR and IAPSO. Also it has been adopted by the Intergovernmental Oceanographic Commission (IOC) at its 25th Assembly in June 2009 to replace EOS-80 as the official description of seawater and ice properties in marine science. The TEOS-10 computer software, the TEOS-10
Manual and many other documents may be obtained from www.TEOS-10.org.

**CCI: user requirements for SST data**

The European Space Agency (ESA) sea surface temperature (SST) Climate Change Initiative project has recently been gathering user requirements for SST data.

These have now been summarised in a document and there is a brief opportunity to provide comments. The document can be accessed from the link below (1.6MB) www.metoffice.gov.uk/hadobs/sst_cci/SST_CCI_URD_v0.9.pdf

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**Agenda**

- **Deadline for nominations for the EMS Silver Medal 2011**: 20 January 2011
- **Deadline for submissions to the ems-message No. 11**: 17 February 2011
- **24th EMS Council**: 17-18 March 2011
  - Bratislava, Slovakia
- **13th EMS General Assembly**: 11 September 2011
  - Berlin, Germany

>>> EMS & ECAC continued from page 1

Communication is at the centre of these services and climate scientists have been perceived as being rather unskilled communicators. The way meteorologists and climatologists convey their findings to the public, stakeholders, administrators and policy makers has been discussed at EMS Annual Meetings from its birth as part of a Media Session. This time the issue was highlighted in a plenary session with panel members from media, science and policy discussing how to deal with uncertainty and risks in the communication process on different levels. The discussion was steered by Hugh Davies (ETH Zürich).

Hugh Davies was also the man constantly asking the question: ‘Where was David Burridge?’ In a moving Silver Medal laudatio he back-traced David Burridge’s professional vita along the decisive moments of meteorology in the past 40 years.

The conference programme consisted of 28 sessions in four programme groups (Climate, Atmosphere and the water cycle, Communication and education, Numerical weather prediction). Around 300 posters were displayed and 400 presentations given during the week. The feedback from participants indicated that overall the level of presentations was of a high quality – though improvements are always possible.

The first day of the conference was closed with an icebreaker reception, and the EMS President used the opportunity to kill the rooster, participants happily nuzzled it away within minutes - pictures of the happening are available at photo gallery: www.ems2010.ch/gallery2

An Outstanding Poster Award had been established in 2009 to highlight good quality posters presented at the EMS Annual Meetings. In Zürich two posters were selected:

- Svetlana Reneva, University of St. Petersburg: *Effect of wetland types on methane emission from Russian frozen wetlands under conditions of climate change*,
- Marie Berthelot, Laurent Dubus, and J. Gailhard, EDF, France: *Improvement of ECMWF monthly forecasts of precipitation over France with an analog method*.

The posters and the award citations can be found at www.emetsoc.org/links/BestPractice.php

**Side meetings**

A number of organizations used the opportunity to arrange side meetings at the conference. These included the EWENT workshop on ‘Estimation of Probabilities of Extreme and Harmful Weather Events in a Changing Climate’ (organised by the EU/FP7 project Extreme Weather Impacts on European Networks of Transport – ewent.vtt.fi), CIRCE RL2 meeting, ESSL Advisory Council and ESSL General Assembly, Informal WMO RA VI Pilot RCC-Network Coordination Meeting and the EUMETNET Climate Change Services Working Group.

A networking event for women was organised by the Earth Science Women’s network (ESWN) and EMS. Elke Hodson (researcher at WSL, Zürich) gave a presentation on ESWN’s aims and activities, and more widely on networking amongst women scientists and other networks, particularly in Europe.

The presentation was followed by a discussion on the existence of other networks, and inspired many discussions. The participants, more than 40 women, felt that such networking meetings were very useful, and would like to see more opportunities of this kind. A similar occasion at EMS&ECAM in Berlin 2011 would be very welcome.

**Publications and photo gallery**

All plenary sessions have been recorded and the link to the webcasts, photo galleries, presentations, and the session programmes are all available from www.emetsoc.org/annual_meetings/annual_meetings.php or meetings.copernicus.org/ems2010. A summary of the feedback given by 210 participants will be available shortly.

**EMS & ECAM 2011**

The preparations for the 11th EMS Annual Meeting and the 10th European Conference on Applications of Meteorology (ECAM) in Berlin, 12 – 16 September 2011, have started. The call for papers will be issued in February 2011.

**Forecasting the weather - ensemble techniques in probabilistic weather prediction**

To subscribe to the ems-message register at emetsoc.org/publications/publications.php

evnotsoci.org/publications/publications.php - No. 10 - December 2010