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Front Cover Photo – Stevenson Screen at BAS – Rothera, Antarctica
(courtesy of committee member Keri Nicoll)

QR – link to our RMetS webpage

You can also now find us on Twitter!
https://twitter.com/RMetS_MetObs
Introduction

Welcome everyone to the 39th edition of the Meteorological Observing Systems Special Interest Group newsletter.

I would also like to welcome new committee member, Joelle Buxmann from the Met Office who will be official joining us at the AGM meeting on the 15th May.

Hope you enjoy this edition!

Mark Dutton, Newsletter Editor

Group Website: Members are encouraged to regularly check the Group’s pages on the RMetS website at http://www.rmets.org/activities/groups/SIG/detail.php?ID=10 for details of meetings and booking information, including on-line registration for meetings. Whilst every effort is made to publicise meetings via the inserts in Weather magazine and the Newsletter the website is the quickest medium of communicating with you.

Have Your Say: This is your Group and your Officers are always happy to receive feedback about what is being done on your behalf. If you have any comments or suggestions on matters relating to the Group and our activities please do not hesitate to get in touch with any Officer. Contact details are shown on the last page of the Newsletter. Suggestions for future meetings and speakers are always very welcome.

Material for Publication: Written material must be in electronic format, preferably in MS Word or Excel, although PDF format can be accepted. Digital image format should be JPEG (preferable) TIFF or BITMAP. Short news items as email are acceptable. Material can be sent as email attachments to mark@emltd.net, or on floppy disk, CD or DVD to Environmental Measurements Limited, 7 Jupiter Court, Orion Business Park, North Shields. NE29 7SE. Please say if you would like disks returning. In all cases please include your name, address and email or telephone number with submissions. Publication deadlines are 31st March for Spring Newsletters and 31st October for Autumn Newsletters.

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Forthcoming Meetings

Meteorological Observing Systems Special Interest Group AGM

Date: Friday 15th May 2015

Time: To be held from 11.35am to 11.55am

Location: School of Geography, University of Oxford

The Meteorological Observing Systems Special Interest Group Annual General Meeting will be held before the Oxford Summer visit. Due to strict time constraints this will be a short meeting.

The Royal Meteorological Society’s Annual General Meeting.

Date: Wednesday 20 May 2015

Time: 13:00 - 19:00

Location: Royal Society of Chemistry, Burlington House, Piccadilly, London, W1J 0BA.

The Royal Meteorological Society’s AGM provides an opportunity to celebrate 165 years since the Society was founded, to look back at the activities of the Society during 2014, to present the prizes to the 2014 Award winners, and to look to the future with the launch of the Society’s new Strategic Plan. So the theme of this year’s AGM is ‘Past, Present and Future’. Jennie Campbell will present the Presidential Address and the Symons Gold Medal Lecture will be given by Prof Robert A Houze, Jnr. There will be also be an opportunity to find out more about the Society’s important programmes of work.
LANFEX site visit

Date: 8-9\textsuperscript{th} July 2015

LANFEX is a joint observational and modelling trial to improve forecasting of fog. A field trial is being carried out in hilly terrain near the Welsh borders for 18 months.

A visit to the LANFEX field site in Knighton, Powis will take place on 8-9\textsuperscript{th} July 2015. As well as a tour of the field instrumentation, there will be an overview talk on the LANFEX trail and a talk on the logistics of deploying these large instruments in a remote and challenging location. The following morning will consist of science talks on the latest results of the trial.

Place contact alan.j.hewitt@metoffice.co.uk asap if you are interested in attending.

Weather on Other Planets: Measurement and Interpretation (TBC)

Date: Friday October 9\textsuperscript{th} 2015,

Time: TBC

Location: to be held in the Royal Astronomical Society (RAS) lecture theatre. Royal Astronomical Society, Burlington House, Piccadilly, London W1J 0BQ.

The meeting is being organised jointly by the Observing Systems Special Interest Group of the Royal Meteorological Society (RMetS) and the RAS, along with the British Interplanetary Society (BIS).
Meeting Reports

Report on radiosonde users meeting

October 2014
Dr Keri Nicoll, University of Reading

October 2014 saw the most recent meeting of the annual Radiosonde Users Group, held at the University of Reading. The meeting provides an opportunity for UK radiosonde users to get together and discuss the latest developments in radiosonde science, from upgrades to equipment and software, to development of new science sensors for radiosondes. Participants normally come from a wide range of academia, industry, government and the military (radiosondes play an important role in the Royal Navy’s operations), and this year’s meeting comprised eight talks by speakers from a mixture of these institutions. To kick off the meeting Matti Lehmuskerö from Vaisala gave an introduction to Vaisala’s new model of radiosonde, the RS41 (which will eventually replace the current RS92 model), discussing the improvements of the new generation radiosonde and how it can more easily integrate with additional science sensors than the current radiosonde. This was followed nicely by a talk from David Edwards from the UK Met Office who described results from an inter-comparison test of the new RS41 radiosonde with other radiosondes (including ones from other manufacturers) which took place at Camborne, Cornwall. The meeting then moved from the details of the radiosondes and sensor performance to the use of the data with a talk from Bruce Ingleby from ECMWF. Bruce described the common problems encountered with radiosonde data assimilation as well as the quality control checks and corrections applied to the data. The focus of the meeting then moved towards the use of additional science sensors with radiosondes, with Paul Smith from the University of Cambridge describing developments towards the use of chemical sensors (mainly CO₂), and Richard Newman from the University of Manchester discussing ozone measurements from the CAST campaign in the western Pacific Ocean. After lunch a series of talks were provided by researchers from the University of Reading who are working on the development of a number of additional science sensors for radiosondes. Giles Harrison described the development of an ionisation sensor to measure cosmic rays and energetic particles from the sun, which bombard Earth’s atmosphere during solar flares. Following this, Graeme Marlton discussed measurements from a balloon borne turbulence sensor which uses the natural motion of the radiosonde to diagnose turbulence at altitudes where it is typically only measured by aircraft. Finally, to round off a very successful and stimulating meeting, Keri Nicoll described the development of a number of sensors for cloud detection from radiosondes which use an optical, rather than thermodynamic, method. Overall the day was a great success and provided many opportunities for the radiosonde users community to exchange ideas and experience of good practise, as well as interact with the radiosonde manufacturers directly.
News from the Manufacturers

**KALYX-RG New aerodynamic rain gauge from EML**

The Kalyx-RG: Designed for weather hobbyists or Hydro-Met projects worldwide.

The Kalyx-RG is our recommended solution for amateur meteorologists and hobbyists or for project work on a budget, but still require scientific standard rain data. The gauge is based on the physical size of the traditional 5” Met Office rain gauge with EML’s unique aerodynamic profile. The Kalyx-RG is a compact solution, an ideal rain measuring instrument for the garden, allotment, or cost-conscious professional. The Kalyx-RG is available to purchase in White or Green - both complete with a standard low density plastic tipping bucket calibrated to 0.2mm resolution. Both colour gauges are produced from UV stabilised external materials. Traditional cylinder-shaped rain gauges are inaccurate due to the effect of wind blowing over the orifice. The physical presence of the gauge causes air to accelerate, carrying rainfall away from the collecting vessel. The effect of this can be up to a 20% reduction in rainfall catch. The unique aerodynamic shape of the EML range of scientific standard rain gauges reduces this effect, ensuring a high level of confidence in the accuracy of our measurements.

This product will be ideal for anyone who has ever wondered how much rain has fallen in their back garden or allotment. The gauge will come with the option to transmit measured data via wireless communication to a PC or mobile device and it will be displayed on a simple and clear user interface (coming soon!).

[www.emltd.net](http://www.emltd.net)  /  [sales@emltd.net](mailto:sales@emltd.net)
Committee Meeting Minutes

ROYAL METEOROLOGICAL SOCIETY

METEOROLOGICAL OBSERVING SYSTEMS
SPECIAL INTEREST GROUP

Committee Meeting

Held from 1130 to 1230 hrs on Wednesday 18th March 2015
at Imperial College London

The Minutes of the meeting

Those present:
SC  Steve Colwell, Chairman
MD  Mark Dutton, Newsletter Editor
MB  Mike Brettle, Treasurer
AH  Alan Hewitt, Secretary
IS  Ian Strangeways
SB  Stephen Burt
DB  Dave Bullock
JB  Joelle Buxmann

Item 1. Apologies
Apologies were accepted from Mark Wilkinson and Keri Nicoll. Mark was prevented from attending because of travel problems.

Item 2. Agreement of Agenda
The agenda was agreed.

Item 3. Minutes of last meeting
The minutes of the last committee meeting were agreed as being correct.

Item 4. Items arising
Actions from the previous committee meeting were considered and the following matters discussed:

AH  – A twitter account has been set up for the SIG @RMetS_MetObs.
SB  – A room has been obtained for the AGM at the Oxford meeting.

Item 5. Treasurers report
MB  – Overall the financial position is healthy, with no major developments since the last committee meeting. SIG is £4866 in credit.
MB  – Membership stands at 69 from 71 last year. Relatively few new members who joined as part of the raffle last year have renewed.
MB – Funds will allow us to pay reasonable expenses to invited speakers who otherwise may not attend.

**Item 6. Newsletter Editors report**

**Autumn 2014 covered:**

- Summer visit and AGM at CEH.
- Obituary of James Samuel Gordon McCulloch.
- Real-time analysis of UK rainfall for dissolved CO$_2$.
- Campbell Scientific data logger with universal terminals.

**Items for Spring 2015:**
- MD – Progress on rainfall/wind effect experiment (with Michael a KTP with Newcastle University and EML).
- AH – Future measurements for climate monitoring. This is being covered in Weather instead – MB.
- AH – Provide a plug to LANFEX site visit.
- MD – News from manufacturer about Kalyx-RG
- SB – NPL meeting on temperature measurements. Not enough to write about.
- KN – Radiosonde meeting report
- DB – Vaisala instrument for newsletter.

**Action:** JB to send photo for newsletter.
**Action:** AH to provide plug to LANFEX field site.
**Action:** KN to write about radiosonde meeting.
**Action:** DB to write article on new Vaisala instrument.

**Possible future articles:**
- SPICE (WMO) intercomparison in Spring 2016 newsletter. MD.
- Oxford visit. ??.
- Halley. KN?

**Item 7. Action required for meeting today**

**SB – Meeting is ready, no action required.**

**Item 8. Future Meetings**

**SB – “Oxford summer visit and AGM” fully subscribed within a day.**
**Action:** SB will enquire if a repeat meeting could go ahead, since more than double the capacity expressed an interest in attending.

**IS – “Weather on other planets”. We need to formally request meeting jointly with at least one fellow of RAS by 1$^{st}$ April deadline. A list of speakers and abstract have been prepared.**
**Action:** IS to inform speakers of provisional date (9$^{th}$ October).
**Action:** IS (joint with fellow of RAS) to formerly submit application by 1$^{st}$ April.
AH – “LANFEX field site”. A field visit by the SIG will coincide with LANFEX science workshop. The first half-day (pm 8th July 2015) will feature the site visit plus LANFEX overview talks. The second half-day (am 9th July 2015) will feature science talk by LANFEX members.
AH – Members should register an interest with me asap so that I can inform Jeremy Price of likely numbers. Capacity for meeting room (thus limit on attendees) is not yet known.
AH – I may be required to drive to location to ensure there is enough car space for site visit.
AH – SIG Members will need to pay for lunches (~£8) and dinner (~£30) as cannot come from LANFEX budget.
**Action:** SC, MD, MB, IS, SB, DB, JB, KN, MW to inform AH if they would like to attend.
**Action:** AH gather details of event to include in newsletter.

MD – “Advances in precipitation detection and measurement”. Newcastle could host summer visit in 2016. Can link this to WMO SPICE (Solid Precipitation Inter-Comparison Experiment).
SB – Could tie in summer visit with History group event in May 2016.
MD – There is a test site at Newcastle University that could be part of summer visit.
MD - ??? Luca Lanza (talk) ???

KN – “Lightning detection meeting”. To discuss details at next meeting when KN returns.
JB – Joelle also involved in lightning detection work at Met Office.

**Item 9. Any Other Business**
IS – Published article on “interplanetary weather measurements” in AWE international.
SC – Perhaps a large batch of single use instruments would be simpler to implement than instrument that relies on insulation and descent/ascent.

SC – We could do with another committee member, perhaps from academic community.
**Action:** ??? I don’t think an action was proposed ???

**Item 10. Date of next meeting**
AH – We could look at combining with weather on other planets.
SC – A day before would allow us to finalise any details of meeting.
**Action:** AH to enquire about availability at RMetS HQ on Thursday 8th October.
Meeting room booked for Thursday 8th October at RMetS HQ

Meeting closed at 11:30
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