WMO-CGMS Virtual Laboratory
for Education and Training in Satellite Meteorology

VLab Newsletter

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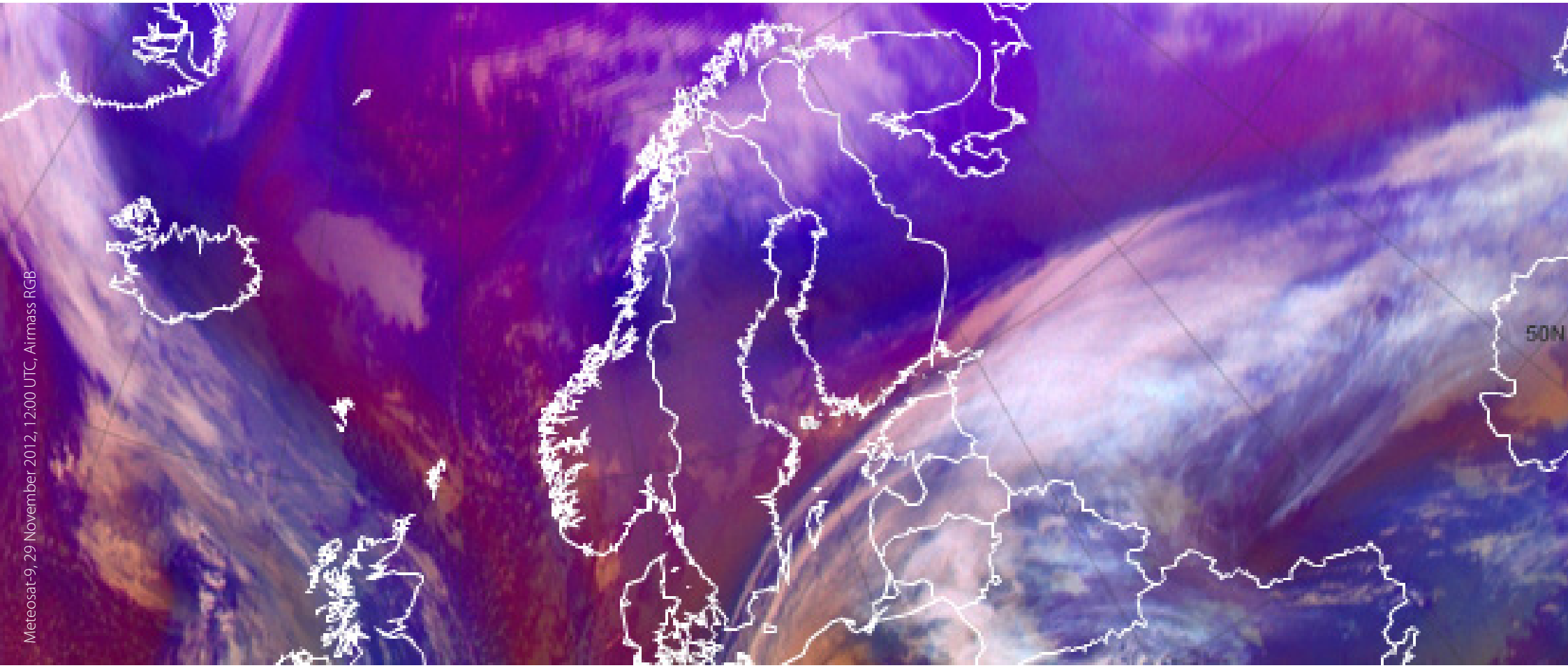


Meteosat-9, 29 November 2012, 12:00 UTC, Airmass RGB

Weather Simulators for Instruction and Assessment Workshop

February 3-7, 2014 DWD Langen, Germany

We don't get this kind of weather every day – but we can bring it into our training and assessment environments. Many of us have been using weather-simulators in our training and assessment processes. For some of them we use charts on paper and pencils and some of them use real data and computer. Particular interest is growing in how these can be used in aviation forecasters competency assessment – so that we can make sure that people get to work with some 'proper weather' rather than just depending on the weather we get the day of the assessment. There was some discussion about this at the CALMet-X Conference in Toulouse last September, so in order to facilitate sharing and learning on this theme, there will be a workshop on simulators in meteorological training and assessment in Germany in 2014.

Here is the first announcement:

Many NMHSs in Europe are exploring the use of Weather Event Simulators for:

- Exposing people to new data and ideas;
- Training forecasters in organisational processes;
- Assessing forecaster competence (particularly for aviation) .

KNMI and EUMETSAT have shared their simulation platforms for others to use.

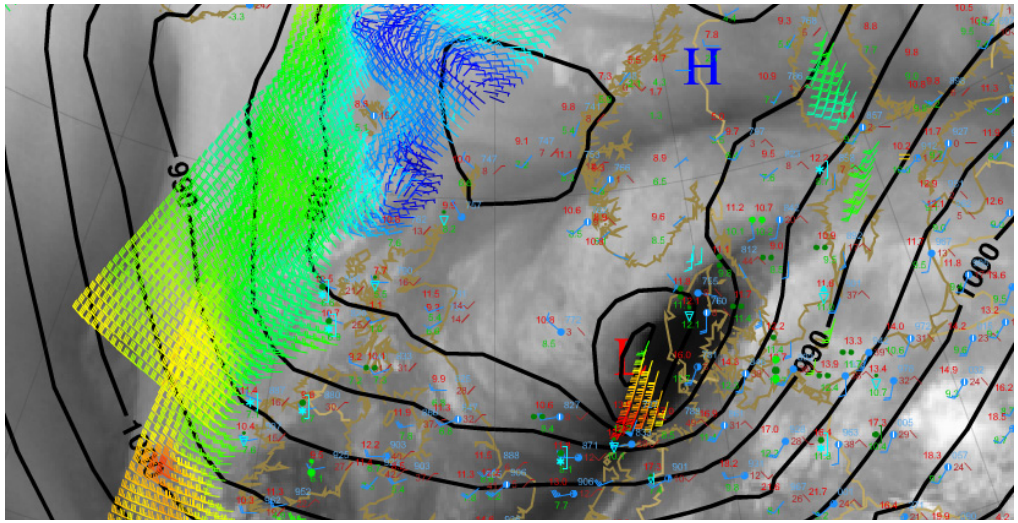
The Weather Simulators for Instruction and Assessment Workshop will share the experience of groups that are already using simulators in instruction and assessment, and give workshop participants an opportunity to develop a real simulator with support.

This workshop will help you to plan, prepare, implement and evaluate how simulators will be used in your organisation.

The workshop will have two components:

1. Using simulators effectively;
2. Building a simulator using the EUMETSAT or KNMI platform.

An online environment will be available for participants to share problems and support each other after the workshop, when they will be implementing simulators into their own organisations.



Key benefits of the Workshop:

- Organisations planning to use simulators for the assessment of aviation competency will be able to learn from people who are already doing it;
- Organisations training meteorologists will gain access to experience and tools to bring simulators into their own training.

Applications should be made by email to Mark Higgins (mark.higgins@eumetsat.int) and Heleen ter Pelkwijk (heleen.ter.pelkwijk@knmi.nl), outlining what your plans are to implement simulators in your organisation and what you want to get out of the workshop.
Deadline for applications is January 31, 2014.

Submitted by Mark Higgins, EUMETSAT

eSurge Training on Applying EO Data to Storm Surge Modelling and Forecasting

The eSurge Project, with support from the European Space Agency (ESA), and in association with the World Meteorological Organisation (WMO), is organising a two-day face-to-face workshop on Applying EO Data to Storm Surge Modelling and Forecasting. The event will be hosted by the National Maritime College of Ireland (NMCI) in Cork, on February 20th and 21st, 2014.

This two-day workshop will demonstrate and teach modellers and forecasters how the application of Earth Observation data can enhance their efforts to model and forecast storm surges. It will also give experiential knowledge of how integrating and exploring such data might proceed. Additional information about the course outline is available at **http://www.storm-surge.info/training-event**

Registration to attend the workshop is already closed, but an online training course will be made available through the eSurge website at **http://www.storm-surge.info/training** in January, allowing those who have not made it to Cork to learn about applying EO data to Storm Surge modelling and forecasting in a self-learning environment. Fundamental modules will be made available initially, with the more advanced modules on E.O. data integration made available subsequently. All training materials shall be available online, and through dvd order, before the face-to-face training event in February 2014.

For those not yet familiar with eSurge, the Project aims to improve the modelling and forecasting of storm surges through the increased use of advanced satellite products such as scatterometry and coastal altimetry. The project provides a database bringing together the available satellite and in situ data for a range of surge events. To learn more about the eSurge Project and the access to the database, please see **http://www.storm-surge.info/data-access**

Submitted by Lu Veeck
on behalf of the eSurge Project

LearnEO! Lesson Writing Competition

The "European Space Agency" (ESA) LearnEO! Project (www.learn-eo.org) is organizing an "Earth Observation" (EO) educational lesson writing competition. Participants from all over the world are invited to take part.

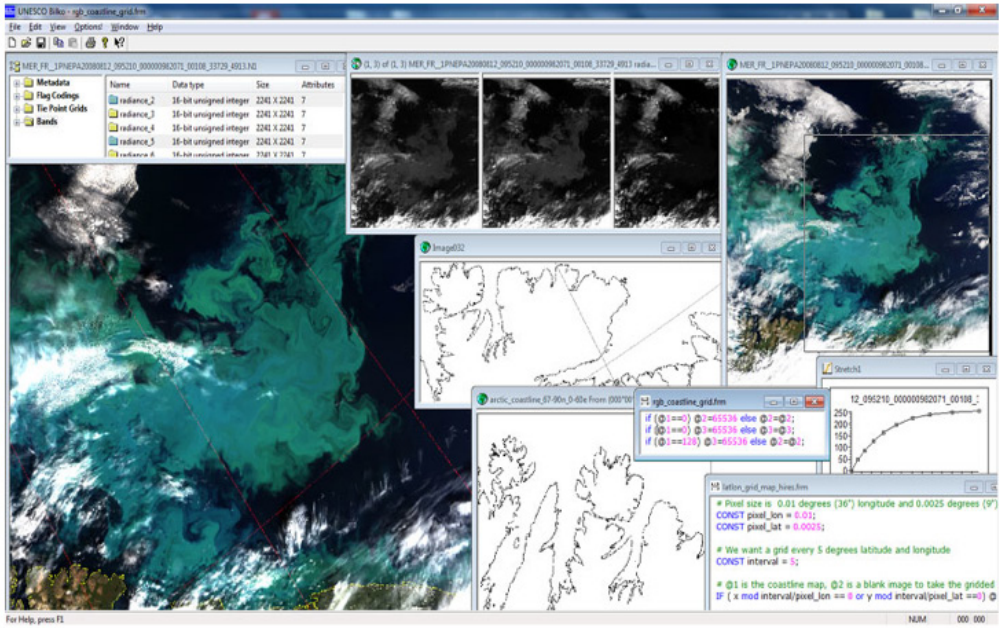
The LearnEO! Competition aim is to use Earth Observation data (from multiple satellite sensors with a primary, but not exclusive, focus on ESA missions), and other supporting data (e.g. in-situ and model results) to generate exciting, engaging and informative lessons that teach students how earth observation works and how to make the most of Earth Observation data. The objectives of the competition are to:
Develop new educational material to train the new generation Scientists;
Foster the use of Earth Observation data, with main focus on ESA missions, for science and application across disciplines and regions;
Encourage scientists to share their own data – including Earth Observation, in- situ, model and expertise through the development of community-based lessons.

The themes of the lessons must be chosen within Earth Science in the broadest sense (e.g. oceanography, geodesy, biology, atmospheric and cryospheric sciences). Lessons can focus on topics ranging from remote sensing application to illustration of processes. The lessons must include data from ESA missions on their own or in combination with data from other sources (including other satellites, model output or in-situ data). Satellite data may be in the original format or pre-processed. Hands-on activities must use the Bilko software.

A prize of €5000 will be awarded to the best lesson. A second prize of €3000 and a third prize of €2000 will also be awarded. Representatives of the winner Lessons will be invited to the award ceremony associated with an international event, taking place in Autumn 2014. The winning Lessons and a selection of lessons submitted for the Competition and deemed appropriate for publication by the competition jury will be published, with due credits to their author(s), on the LearnEO! website.

The deadline to register for the competition is the 31st of January 2014 and the final version of the competing lessons should reach the organisers by the 15th of February 2014. More information about the competition is available at http://www.learn-eo.org/competition.php

Submitted by Lu Veeck, VLab TSO
on behalf of LearnEO!



Screenshot of the Bilko Tutorial
(http://www.learn-eo.org/tutorial.php)

Melbourne Centre of Excellence (CoE) conducts its *VLab Science Week 2013*

The Melbourne VLab Centre of Excellence hosted its Advanced Forecaster Course "Science Week" from the 22nd to the 26th July 2013. Nineteen online sessions were presented to a classroom and online audience. The content of the presentations consisted of topics relating to the latest developments in meteorological science with respect to operational forecasting. This event is the Australian Bureau of Meteorology Training Centre contribution to the international community as a Centre of Excellence in the WMO Satellite Virtual Laboratory Program.

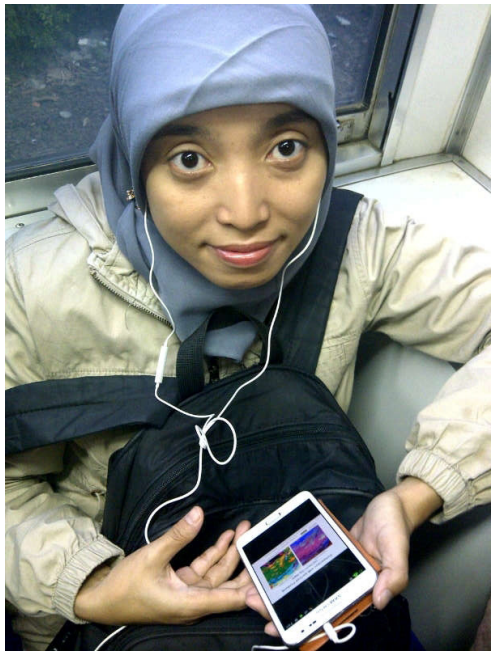
The week commenced on the 23rd June with a welcome address by Duncan Tippins, the Course Coordinator. Bureau of Meteorology specialists presented many of the sessions including the latest developments in the use of satellite imagery including details of the planned Himawari 8/9 satellite, also developments in Numerical Weather Prediction models and other weather forecasting related topics. Once again our Sponsoring Satellite Operator, the Japan Meteorological Agency participated with presentations on "Volcanic Ash and Dust monitoring with Geostationary Satellites" and "Surface wind estimation using rapid scan Atmospheric Motion Vectors". Other international contributions included presentations by Met Service New Zealand, the South African Weather Service and the National Weather Service of the USA.

Between 17 and 29 attendees participated in the presentations. There was strong participation from Australia and Indonesia, also from China and New Zealand. Other countries represented within the audience included the Solomon Islands, South Africa, Argentina and Oman. Some enterprising and adventurous participants experimented in viewing the presentations on Tablet and on mobile phone devices.

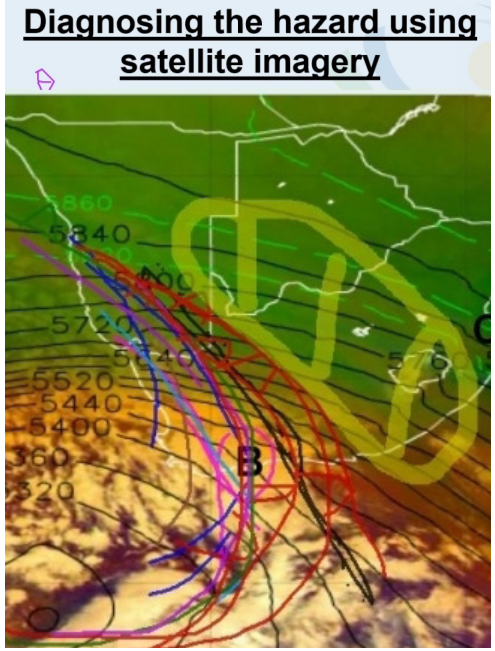
Once again, the GoToWebinar software was used for these sessions, and overall this performed well. Aside from the presentations there were also hands-on activities that the audience could participate in. We found new creative ways of engaging the remote audience. This included "free play" by the audience on the introduction and conclusion slides, and setting certain slides aside for questions as can be seen in the illustration.

It was satisfying to see a great improvement in participation on the associated web-based chat forum, when compared to our first Aviation Week of 2011.

For those who could not attend the sessions, a selection of the presentations are on the Melbourne VLab Centre of Excellence Science Week web page, specifically at: **http://www.virtuallab.bom.gov.au/archive/science-week/science-week-presentations**



Participant experimenting mobile learning.



Engaging the remote audience in "free play" activities.

Comments and feedback are encouraged and should be forwarded to the Science Week VLab Course contact Bodo Zeschke: b.zeschke@bom.gov.au

A big thanks to all participants, and in particular the members of the Advanced Forecaster Course Management Group of Duncan Tippins, Ross Bunn, Roger Deslandes, Merrin Bennett, Nicholas Bright and Michelle Hollister.

Submitted by Bodo Zeschke – BMTC VLab CoE Australia

Training Workshop on NOwcasting TEchniques: T-NOTE

The T-NOTE Workshop was directed to graduate and postgraduate students in the field of atmospheric sciences as well as National Meteorological and Hydrological Services personnel, and members of WMO RAIII and IV with background in meteorology.

The Workshop was organized and sponsored by the WMO World Weather Research Program (WWRP) and the VLab CoE Argentina. It was hosted by the Facultad de Ciencias Exactas y Naturales in Buenos Aires, Argentina, from 5 to 16 August 2013.

The specific objectives of the course were to:

- Develop the areas of nowcasting and very short forecasting at the regional level by means of comprehensive training activities on this field;
- Leverage the local capacity, so that a critical mass of trainers can be formed under this activity (i.e., training of trainers);
- Interact with potential users of nowcasting in order to develop new tools to their activities based on nowcasting products from measurements, remote sensors, models and blending techniques available over the region.

Interest to participate in the Workshop was very high. 60 applications were received from many countries from WMO RAIII and RAIV. As practical exercises were planned and computing facilities needed, the organizing committee could accept a maximum number of 40 participants, leaving 20 applicants disappointed.

Most of the participants were from Argentina (28), and also from other countries from RAIII and RAIV. Two participants, one from Mexico and one from Peru, could not attend the course at the last moment. Most of the participants were forecasters working at Weather Services or as aviation forecast providers, but there were also many participants from universities and water resource organizations, among others.

This two weeks' course was an incredible experience for all the participants and also for the local trainers. The proposed objectives were covered and also many others topics were discussed (e.g., the radar data quality and the way to correct the basis data). The participants have demonstrated the interest in promoting nowcasting in their own institutions and the need to work in an inter-institutional and regional framework was evident. South America doesn't have much experience in radar meteorology and as a consequence, not much experience in nowcasting techniques. Therefore this course provided a starting point for the development of an inter-institutional and regional framework.

Participants of the T-NOTE Workshop 2013

Organizing Committee
Paul Joe, Environment Canada, Canada
Rita Roberts, NCAR, USA
Celeste Saulo, DCAO-FCEN/CIMA-UMI, Argentina
Claudia Campetella, NMC/DCAO-FCEN, Argentina
Paola Salio, DCAO-FCEN/CIMA-UMI, Argentina

Invited Instructors
Paul Joe, Environment Canada
Rita Roberts, NCAR, USA
James Wilson, NCAR, USA
Isztar Zawadzki, McGill University, Canada
Carlos Morales, University of Sao Paulo, Brazil
Estelle de Coning, South African Weather Service
José García-Moya Zapata, Agencia Estatal de Meteorología-España
Steven Goodman, NASA, NOAA

Argentine Instructors
Celeste Saulo, UBA/CIMA
Paola Salio, UBA/CIMA
Juan Ruiz, UBA/CIMA
Claudia Campetella, SMN /UBA

Submitted by Claudia Campetella (SMN/UBA) and Yanina García Skabar (SMN) Vlab CoE Argentina

Asia-Oceania Meteorological Satellite Users Training Workshop

7-8 October 2013

The Training Workshop on Preparation for Advanced Meteorological Imagers was hosted by the Australian VLab Centre of Excellence of the Australian Bureau of Meteorology on 7 and 8 October 2013 at the Bureau of Meteorology Training Centre. The Training Workshop preceded the 4th Asia-Oceania Meteorological Satellite Users Conference held at the Melbourne Convention Centre.

The Workshop informed users about the expected changes associated with the launch of the new generation of satellites (Himawari-8, FY-4A, GEO-KOMPSAT etc.). It was directed principally towards WMO Region V and Region II Operational Forecasters.

Topical areas covered during the Training Workshop included the following:
Background to Himawari 8/9
Future development of other satellites relevant to RAV and RAII
Introduction to Rapid Scan Satellite imagery
Introduction to RGB and Derived Products.
Workshop on satellite user requirements in WMO Region V.

Many of the classroom sessions included remote communication to an external audience using the GoToWebinar web conferencing software. The afternoon sessions consisted of hands-on practical exercises pertaining to Rapid Scan Satellite Imagery as well as RGB and Derived Products.

Roger Deslandes, the Principal of the Australian Bureau of Meteorology launched the first Australian VLab Centre of Excellence Regional Focus Group Weather and Forecast discussion during the Training Workshop. Over the two days we were also fortunate to have valuable input from Dr K.Bessho from the Japanese Meteorological Agency, Dr W.Zhang and Dr S.Bojinski from the World Meteorological Organisation, Dr D.Kim from the Korea Meteorological Administration and Dr A.Rea and Ms A.Lane from the Bureau of Meteorology.

Bodo Zeschke, the Australian VLab Centre of Excellence point of contact coordinated the sessions and designed and supervised most of the practical sessions. The classroom attendees are shown in the figure below. In addition there were between 10 and 25 remote attendees per Webinar session including strong representation from the Indonesian Agency for Meteorology, Climatology and Geophysics (BMKG), the Philippine Atmospheric and Astronomical Services Administration (PAGASA) and the Hong Kong Observatory. Other countries represented within the remote audience included New Zealand, the United States, Australia and Egypt.

Training Workshop resources were provided to the attendees. Some of these are available on the Australian VLab Centre of Excellence web page at **http://www.virtuallab.bom.gov.au/events/aomsuc-training/updated-timetable-and-resources/**

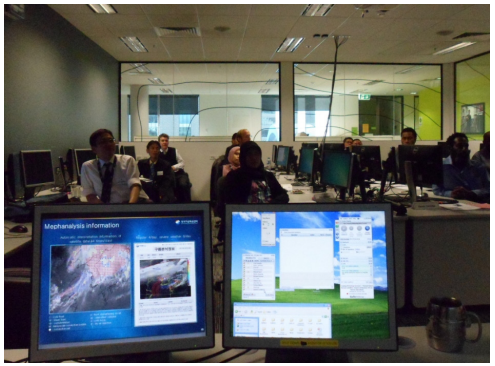
Attendees and visitors to the Training Workshop.

Commencement of the Australian VLab Centre of Excellence monthly Regional Focus Group Weather and Forecast Discussions

Following on from the Training Workshop on Preparation for Advanced Meteorological Imagers, the Australian VLab Centre of Excellence has commenced conducting monthly Regional Focus Group meetings.

The second session was held on the 6th November and was coordinated by Bodo Zeschke, the Australian VLab Centre of Excellence Point of Contact. Discussion topics included an outline of the latest updates on the Melbourne VLab Centre of Excellence web page at **http://www.virtuallab.bom.gov.au/**
This was followed by a brief "show and tell" of animation loops from the MTSAT Rapid Scan (10 minute) trial conducted on the 1 October between the Japan Meteorological Agency and the Bureau of Meteorology. Forecaster familiarity with this data is important as 10 minute Himawari 8 geostationary satellite data will become available in 2015.

The Weather and Forecast Discussion was next. During this session the attendees were made



Some "snapshots" from the Training Workshop. The left panels show the morning lecture style sessions with the Webinar remote classroom interface displayed at first photo from the left. The 'hands-on' afternoon sessions are shown in the right panels with Bodo Zeschke introducing RAV forecasters and trainers to the Webinar software at first photo from the right.

aware of useful Weather and Forecast Discussion links on the Australian VLab Centre of Excellence web page.

There were 20+ online participants with a strong contribution from the Australian Bureau of Meteorology and the Indonesian Agency for Meteorology, Climatology and Geophysics (BMKG). There were also attendees from Met Service New Zealand, the Philippine Atmospheric and Astronomical Services Administration (PAGASA), the Vanuatu Meteorological Service and from Costa Rica.

The most recent session was held on the 3rd of December, with a growing audience and a very strong representation from BMKG. This included a presentation from Mr. Andersen Panjaitan on "Monitoring of ash-cloud from Mount Sinabung and Mount Merapi eruption, 18 November 2013".

The RFG sessions have been recorded and you will find the recordings on the Melbourne VLab Centre of Excellence page at **http://www.virtual-lab.bom.gov.au/** in the "Archive" pull down menu. Future Australian VLab Centre of Excellence Regional Focus Group sessions will be held on the first Tuesday of the month at 02UTC and will be advertised at the VLab online Calendar of Events and also via VLab mailing list. As for all VLab RFG sessions, attendance is free of charge.

Submitted by Bodo Zeschke (BMTC)
VLab CoE Australia

Semaine de l'aviation 2013 - An Event Week organised by the VLab CoE in Casablanca

Aviation is one of the growing strategic areas for African countries impacting other vital socio-economic sectors such as tourism, trade and the service sector. This segment represents also the main financial resource for National Meteorological Services (NMS).

By its contribution to the safety, regularity and comfort of passenger, the aeronautical meteorology is one of the most important meteorological services. For this reason, the International Civil Aviation Organization (ICAO) and the World Meteorological Organization (WMO) recommends the NMS to establish a Quality Management System (QMS), according to ISO 9000, and require standards of qualifications and training of the personnel providing meteorological services for air navigation.

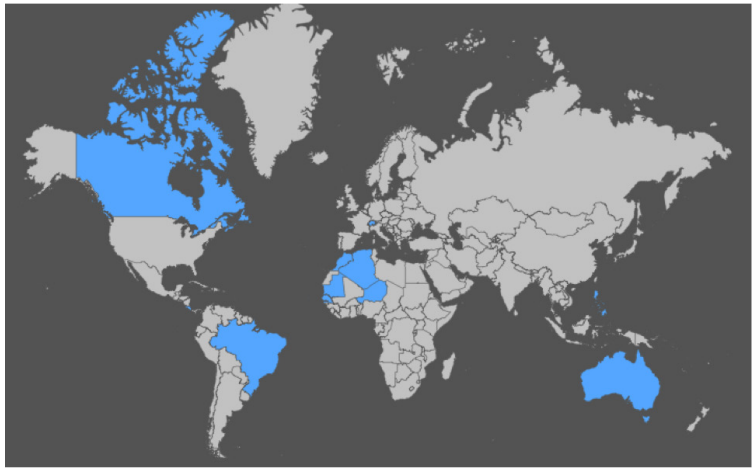
The Virtual Laboratory Centre of Excellence in Casablanca (VLab CoE Morocco) organised a week of online training sessions dedicated to the topic of aeronautical meteorology, from 11 to 15 November 2013. VLab and EUMETSAT supported the organisation of the Event. The need for this event was observed in the results of an online survey conducted by CoE Morocco in 2013. The survey, which investigated training needs, showed aeronautical meteorology as one of the highest priorities for urgent training in WMO RA I.

This training event comprised 9 sessions (one postponed) and covered three aspects of aeronautical meteorological activities: i) organizational and regulatory aspects, ii) operational aspect and iii) development and modelling aspect. Each session was about 60 to 90 minutes long, including presentations, discussions and questions. All sessions were recorded and are available at http://training.eumetsat.int/course/view.php?id=213

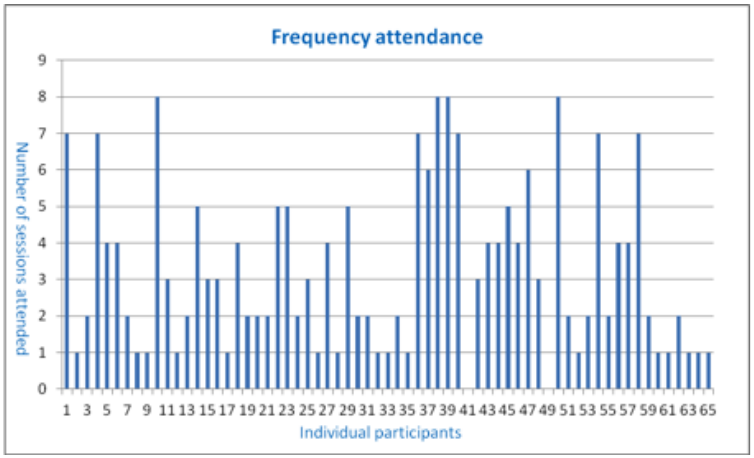
Experts from VLab CoEs Morocco, Barbados and Australia provided a high quality standard training to the benefit of more than 65 meteorologists and scientists from 14 countries, such as Algeria, Australia, Barbados, Brazil, Canada, Cape Verde, Costa Rica, Mauritania, Morocco, Niger, Philippines, Senegal and Switzerland.

The average attendance per session was 35 participants (out of 75 registered). The average frequency of attendance to the sessions of this event was about 3.25. This reflects the attractiveness of the training, which was confirmed by the post-event online evaluation. Moroccan participation was strong (43 participants to all sessions), as a result of the strong advertising done for this event at all levels of DMN (central, regional and local).

Submitted by N. Filali (DMN)
VLab CoE Morocco



Map showing countries that participated in the Aviation Week 2013



Frequency attendance to the sessions of the event

GEONETCast Event Week

GEONETCast is part of the Group on Earth Observation's contribution to the organization of the Global Earth Observing System of Systems (GEOSS). It is a near real time, global network of satellite-based data dissemination systems designed to distribute space-based, air-borne and in situ data, metadata and products to diverse communities. GEONETCast is led by three regional infrastructure providers: EUMETSAT in Europe (EUMETCAST), Chinese Meteorological Administration (CMA)in the Asia-Pacific region (CMACast), and NOAA in the Western Hemisphere (GEONETCast Americas). As GEONETCast is not the primary means of dissemination of satellite data for Regions III and IV, it is not as widely used as EUMETCast or CMACast.

As a follow-up to the WMO NOAA Train the Trainer Workshop on GEONETCast in April 2013, and in response to WMO user surveys (both mentioned in the previous VLab newsletter) CIRA, NOAA, WMO, and the WMO Centers of Excellence in Costa Rica, Barbados, Brazil, and Argentina hosted a virtual training on GEONETCast. It consisted of 3 sessions on the 3rd, 4th, and 5th of December 2013. Regions III and IV have a large percentage of Spanish speaking countries and we wanted to reach both English and Spanish users, so the sessions were presented in both languages (for a total of 6 sessions).

The goals of the training were: to make countries more aware of what is available; to expand the use of GEONETCast-Americas; and to start thinking about GOES-R. The topics included an introduction to the capabilities of GEONETCast, disaster mitigation products, and software to view products. The sessions drew a lot of interest as people from 29 countries participated. There were 111 individuals, which included speakers, organizers, and participants. PowerPoint presentations have already been posted on the Event's web pages and the session recordings will be posted as they are processed.

As the GEONETCast Americas web page points out: "This user-driven, user-friendly and low-cost information dissemination service aims to provide global information as a basis for sound decision-making in a number of critical areas, including public health, energy, agriculture, weather, water, climate, natural disasters and eco-systems. Accessing and sharing such a range of vital data will yield societal benefits through improved human health and well-being, environment management and economic growth." We plan to continue to incorporate this theme in our future training events.

To access the recordings and slides used in this Event, please visit
http://rammb.cira.colostate.edu/training/rmtc/geonetcast_event_en.asp - for English
http://rammb.cira.colostate.edu/training/rmtc/geonetcast_event_sp.asp - for Spanish

Submitted by Bernie Connell, CIRA and Paul Seymour, NOAA

CALMet Happenings

2013 saw the offering of another great CALMet Conference, hosted in August by the Meteo-France Ecole Nationale de la Météorologie in Toulouse. Participants included 87 people from 38 organisations, 29 countries, and 6 continents. Many presentations, panel discussions, and workshops kept everyone busy and engaged for the entire week. The CALMet Commons was also launched during the Conference. This site, http://www.calmet.org/, is our organizational Website and hosts a frequently updated blog, providing a venue for easily sharing ideas, experiences, and resources among our community of practice. CALMet Commons welcomes your. It can be used to share ideas and experiences, generate discussions, ask questions, or invite others to share their opinions. To make a post yourself, email Patrick at pparrish@wmo.int or Maja at maja.kuna@eumetsat.int. We hope you will subscribe to receive posts and comments by using the subscription links on the right side of the homepage, or going directly to the subscribe site.

Since the Conference, the CALMet Working Group has resolved our identity crises and agreed upon a new name for the orphaned acronym, CALMet. The label stands alone, but when we spell it out, we now use "Community for the Advancement of Learning in Meteorology and related disciplines." It is a mouthful, but we feel it better describes our broad focus on improving all aspects of teaching and learning opportunities in our disciplines.

"CALMet X Conference, Toulouse 2013"

CALMet Online is again scheduled to occur in 2014, during the second half of the year. Vesa Nietosvaara will be chairing the planning committee, with contributing efforts by many others in the working group. Plan to become involved as a participant or contributor in this great online learning opportunity. We look forward to many interesting and innovative events again this year.

The next face-to-face CALMet Conference will be hosted in 2015 by the Korean Meteorological Administration in Seoul, Korea during the week of 7 September, so don't forget to put this into your travel plans and budgets for next year. More information about the conference will be shared later this year.

Submitted by the CALMet Working Group

EUMeTrain Courses on Satellite Meteorology 2014

EUMeTrain will be organising two courses on satellite meteorology in 2014, one online and the other face-to-face.

The first course, planned to take place in May/June, will be dedicated to the basics of satellite meteorology and image interpretation. This course will be online and it will start with an introduction to the current topics of satellite meteorology. Participants will learn about satellite orbits, data retrieval and the most common satellite types. Instruments and radiation principles will be explained as well as image enhancements and combinations.

The second course will take place in Langen, Germany, in October 2014. This course will concentrate on synoptic interpretation of satellite images, and will include a lot of practical work under the guidance of experienced forecasters. Participants will learn how to classify cloud systems and image features seen in satellite images into conceptual models.

Both courses can be attended independently. While the online course will be offered free of charge, the classroom course in Langen will demand a course fee of 500 Euro. Additionally, only a limited number of participants will be accepted to attend the classroom course, as attendance will be limited to the number of workstations available for the course.

Additional information about these courses on Satellite Meteorology will be published in due course in the EUMeTrain website at **http://eumetrain.org** and also in the online Calendar of Events at **http://www.wmo-sat.info/vlab/calendar-of-events/**

Submitted by Andreas Wirth (ZAMG) EUMeTrain

VLMG-7 - Russian Federation July 2014

The dates for the Seventh Meeting of the Virtual Laboratory Management Group (VLMG-7) are now defined: 21 to 25 July 2014. The Russian State Hydrometeorological University (RSHU) will host the meeting in Saint Petersburg, Russian Federation, supported by ROSHYDROMET.

This meeting is a great opportunity for all VLab partners to assess achievements, exchange experiences, address challenges, and take decisions that can shape the future of the VLab Programme.

The Local Organizing Committee advises VLMG delegates to start checking on VISA requirements as soon as possible. Some initial information, including travel advice, are already available in the meeting website at **http://training.eumetsat.int/course/view.php?id=216**

Submitted by the VLMG-7 Organizing Committee

Regional Focus Groups – when is the next session?

With the addition of the Australian Regional Focus Group, VLab has now 5 active RFGs organised by CoE Australia, Barbados, Costa Rica, Morocco and South Africa. Adding to that, there is also the EUMeTrain "e-Port Weather Briefing", which is performed by meteorologists from Croatia, Portugal, Finland and Austria. Most of these groups get together on a monthly basis and a few sessions are already booked for January.

They are:

- Australian RFG – 17 January, 02:00 UTC
- e-Port Weather Briefing – 14 January 09:00 UTC
- Americas & Caribbean RFG – 23 January, 16:00 UTC

Dates and links to attend the VLab RFG and the e-Port Weather Briefing sessions can be found in the VLab Calendar of Events at **http://www.wmo-sat.info/vlab/calendar-of-events/** The calendar is updated on a regular basis, so keep your eyes in the calendar.
Alerts are also sent to the VLab Mailing List every time a RFG session is booked. If you would like to receive RFG and other VLab training notifications by email, please request to be included in the VLab Mailing List by sending your contact details to the VLab technical support officer using the contact form at **http://www.wmo-sat.info/vlab/contacts/**

Lu Veeck, VLab TSO

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http://vlab.wmo.int

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Publication Policy

The VLab Newsletter is published semiannually. Its purpose is to highlight training events organised by VLab members and partners, and also to make the wider meteorological community aware of VLab activities and resources. Most articles are written by VLab colleagues. Article contributions to future editions are welcome and should be sent directly to the editor. The VLab Newsletter is made available online only. Any questions and comments about the content or distribution of the newsletter should be sent to the editor.
Editor: Lu Veeck luveeck@googlemail.com