AVIATION QUALITY MANAGEMENT SYSTEM

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CMO Aeronautical Continuing Professional Development (AeroCPD) Course

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By December 1, 2013, the Aeronautical Meteorological Services (AMS) must show its Aeronautical Metrological Personnel (AMPs), both forecasters and observers, meet World Meteorological Organization Competence Standards for Aviation Meteorological Forecasting and Observing Personnel. The details are in WMO Publication No. 49, Technical Regulations, Volume I.

To meet this requirement, WMO *members will be expected to provide evidence of their aeronautical personnel's competence as part of their Quality Management System*. Members will also need to show that their qualified personnel are continuing their professional development.

Implementation

To assess and retrain forecasters is going to a mammoth task for most aeronautical services. The WMO has employed a Task Team on distance learning (WMO TT-DOL) to determine the best ways to quickly and effectively train aeronautical personnel, in particular Aeronautical Meteorological Forecasters (AMFs).

The WMO TT-DOL asked the training arm of the Caribbean Meteorological Organization (CMO), the Caribbean Institute for Meteorology and Hydrology (CIMH) and UCAR COMET® to develop a training program based on the competency standards.

It was immediately apparent that this critical training had to be offered online because National Meteorological and Hydrological Services (NMHS) in CMO Member States have too few staff members to send employees to extensive offsite training.

In response, the CIMH/COMET team produced the online Aeronautical Continuing Professional Development course for forecasters in CMO Member States (CMO AeroCPD). The course addresses the competency requirements and enhances on-the-job-training in new technologies critical to operational forecasting.

CMO AeroCPD

The course, which focuses on tropical meteorology, was designed specifically for the NMHS. In addition, the course can be easily adapted for any region. The course offers five units:

- Review of Tropical Meteorology Fundamentals
- Satellite Interpretation in the Tropics
- Radar Interpretation in the Tropics
- Interpretation and use of NWP Mesoscale Models
- Operational Aeronautical Meteorology

Forecasters from NMHS in CMO Member States are trained professionals who are required to improve and enhance their aeronautical forecasting competency. To ensure a quality program, the course developers used these forecasters inputs and experience.

The course started in September 2011 and continued through April 2012. For 6 months, participants from five of the nine regional forecast offices took part in weekly online sessions using COMET, VisitView and specially designed modules, live online discussions and practical exercises.

The sessions reviewed meteorological basics, reviewed and introduced analysis and forecast techniques, and built towards operational techniques. COMET hosted the course on its Moodle site. Live discussion sessions used Elluminate voffice© hosted by CIMH.

The COMET team provided support to ensure the course ran smoothly. Participants were graded on submitted exercises, projects and participation.

Among the highlights of the course was the use of COMET's Introduction to Tropical Meteorology Online textbook. The textbook provided an excellent review of basic synoptic, dynamic, and thermodynamic meteorological theories—the foundation of aeronautical competency. Also presented were concepts of global scale variability, which play a significant role in tropical forecasting.

Great care was taken to relate these topics to the forecasting process. This approach resonated with forecasters taking the course.

Also very popular was the Unit on Radar interpretation in the tropics. Prior to this class, there was minimal Doppler radar training related to the Caribbean, so most course resources had to be adapted. COMET, in cooperation of the U.S. National Weather Service, made available a radar training course based on NWS Warning Decision Training Branch lectures. Participants found this program both challenging and informative.

This course also offered an opportunity to develop new training resources such as "TAF Writing in the Caribbean." Such area specific programs made it easier for regional forecasters to relate to the content.

Course Participation

One of the big questions in organizing this course was "Would operational forecasters be able to effectively participate in an online course?" The participating forecasters were all operational while on the course. Often events from their shifts would be part of the live discussions. This was instrumental in getting the forecasters more involved and willing to actively participate in discussions.

In terms of methods of participation, the most popular were the online discussions and completing the assignments. In general, the participation has been acceptably high. Only the forecasters from one of the member states had attendance less than 50% for the live sessions, but even this group had higher participation for the assignments.

While it is to be expected that there will not be 100% participation, it was stressed to the forecasters that this course will form part of the continuing professional development portfolio required to show their competency in the field of aeronautical meteorology. Other successes included:

- Live sessions were well attended and involved spirited discussions for as long as 3 hours.
- Participants had little trouble accessing the course material, and from their feedback, appeared to gain a great deal from the information presented.
- From the assignments and discussions, the lecturers were able to identify areas of concern and address them quickly.
- From comments offered, forecasters clearly were learning and appreciative of the work presented.

Conclusion

The AeroCPD course is meeting its goals to help regional forecasters hone their skills. There is still a long way to go and a great deal to be learnt by both forecasters and lecturers.

As a pilot program, this course has proved that effective online training is possible and can aid WMO member states who need to address competency concerns. CIMH already is planning it 2012-2013 AeroCPD courses, which will refine the work done in the first course. ✈

RA IV QMS Update

Michael Graf, Chair, RA IV Aviation Task Team

Earlier this year, I had the pleasure of discussing RA IV QMS progress with North American ICAO representative Guillermo Vega. He was able to provide his current list (as of April) on where most States were with respect to their QMS. I invite you to provide any updates that you may have back to Mr. Vega: GVega@icao.int.

The information provided for the Caribbean States/ Territories stems from a gap analysis and represents an estimation performed by focal points on their organization.

In Central America and the Spanish speaking States in the CAR Region, here is the latest status:

- **Cuba:** Completed the implementation of QMS
- **Costa Rica:** In starting stage in QMS
- **Dominican Republic:** Have done work and advanced with the process. They obtained valuable support from their government to go ahead in this task; seems very positive.
- **El Salvador:** Has done some work and needs assistance to continue progress
- **Guatemala:** Starting stage in QMS
- **Honduras:** Starting stage in QMS
- **Mexico:** Less than half completed
- **Nicaragua:** More than half of QMS implementation has been completed. Cuba have assisted greatly with guidance through training and OJT.

In the Caribbean

- **Anguilla:** Mid stage of implementation
- **Antigua and Barbuda:** Mid stage of implementation
- **Aruba:** Advanced stage of implementation
- **Bahamas:** Mid stage of implementation
- **Barbados:** Just above the starter stage
- **Belize:** Mid stage of implementation
- **British Virgin Islands:** Advanced stage of implementation
- **Cayman Islands:** Mid stage of implementation
- **Curacao:** Advanced stage of implementation

- **Dominica:** Mid stage of implementation
- **Grenada:** Mid stage of implementation
- **Jamaica:** Just past starter stage of implementation
- **St. Kitts and Nevis:** Just past starter stage of implementation
- **St. Lucia:** Mid stage of implementation
- **St. Maarten:** Mid stage of implementation
- **St. Vincent and the Grenadines:** Advanced stage of implementation
- **Trinidad and Tobago:** Mid stage of implementation ✈

Free Meteorology Training Online from MetEd

Michael Graf, Chair, RA IV Aviation Task Team

Follow on weather training at Meteorological Watch Offices can sometimes be a hit or miss proposition, sort of like Mother Nature. But there is a Website available to the forecasting community and can be part of your offices self-improvement program, MetEd.

This free site provide high quality education and training resources to benefit the weather community, and while not exclusive to aviation, includes plenty of weather related training.

MetEd is populated and maintained by the COMET® Program. Some topics for example:

- Space Weather Impacts on Aviation
- The Impact of Weather on Air Traffic Management
- Quality Management Systems: Implementation in Meteorological Services
- Volcanic Ash: Impacts to Aviation, Climate, Maritime Operations, and Society
- Volcanic Ash: Introduction
- An Overview of Tropical Meteorology
- Mountain Weather Distance Learning Course
- Review of Aeronautical Meteorology

The COMET® Program is an international resource, with nearly one third of registered users from outside the United States. COMET maintains a translation program, which allows it to offer a Spanish-language version of MetEd, along with hundreds of hours of distance learning in Spanish. In addition, some modules have been translated into French and a few are also available in Portuguese, Russian, and Bahasa Indonesia.

COMET has also made international adaptations to a number of modules originally designed for U.S. audiences. From time to time, COMET also hosts international courses in our classrooms and online.

COMET staff members have been active for years in

WMO task teams and expert panels, and are active members of the CALMet Working Group, which hosts the CALMet Conferences.

Most COMET modules use JavaScript and Adobe® Flash® for navigation, animation, and presentation of multimedia elements. Ensure that you have a browser updated to its latest version with JavaScript enabled and the latest version of the Adobe Flash Player installed. ✈

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