Information sharing has reached new dimensions with the introduction of modern information and communication technologies (ICT). The world is now within our reach but not all information and material is useful and the further one delves into the professional world the less useful and up-to-date the material tends to be.

The Nature of Training in Meteorology

Meteorology is a specialised field that is heavily depending on the effective exploitation of the most modern technologies available. Operational forecasters need continuous professional development (CPD) in their daily activities to maintain high standards in weather products. The National Meteorological Services (NMS) of Europe are facing ever tighter financial restrictions thus creating a situation where the training needs cannot be met without cooperation.

Sharing, reprocessing and exchanging training material and organising material into comprehensive online training modules reduces development time for the teacher and provides NMSs ready-made packages for the student without excessive use of staff resources. E-learning methods provide a fast response to new technologies and can be used to reach a wide audience potentially spanning the entire globe.
Changing Requirements for Training

The new challenges imposed by the WMO Technical Publication No 258 and the Single European Skies (SES) legislation create a new situation in aviation meteorology where all NMSs need to find a resource-efficient approach to competency assessment possibly in some areas through certification. The increasingly fast development of new e-learning programs and methods demands, however, dedicated personnel who are aware of the potentials and benefits of the various methods for e-learning.

The Eumetcal Programme

Eumetcal is a EUMETNET programme that acts as the Virtual Training Organisation in Europe. Eumetcal has created a Training Resource Library, held Workshops, co-funded the creation of several Computer Aided Learning (CAL) modules and some are available online at the website of Eumetcal. Eumetcal hosts a dedicated web page to inform member NMSs of training activities in Europe. All Eumetcal activities are aimed at improving training in the field of meteorology through cooperation, common training templates and shared material.

The essence of Eumetcal is cooperation in the field of meteorology and the next five-year phase starting in 2007 will focus on increasing the level and quality of cooperation in training and to establish the virtual organisation in Europe. Cooperation is realized by holding special Eumetcal Workshops concentrating on contemporary issues in training and providing European trainers a forum for the exchange of ideas and good practices. The different working groups (see below) will also create smaller cooperative groups in different fields, giving experts a chance to discuss solely training related issues.

Foundation of Training Material and Development

Eumetcal is based on the two most important assets created in the programme: the Eumetcal intraLibrary and dedicated web site offering access to the Eumetcal Training Modules and external training sites. The Eumetcal intraLibrary is a shared resource between all member NMSs that enables the sharing of training material between the services. It provides an intuitive user interface and effective search functions for the wealth of material stored within. The library currently hosts over 1400 learning objects that range span many languages and all types of objects. Many of the learning modules are available also through the Eumetcal website.

The Eumetcal web site has been developed to act as the primary point of information regarding training in the field of meteorology in Europe. It contains news, a forum, a Moodle Learning Environment, access to the library, Learning Modules and links to other training institutions. The Eumetcal Training Resources have been developed in close European cooperation. The library server resides in France and was developed largely by the UK Met
Office. The website is hosted by Météo France and the training modules are a result from an open tender process involving numerous European countries.

The material development is coordinated by dedicated Themed Resource Working Groups (TRWGs) that comprise of experts within each theme. Eumetcal currently hosts the Satellite (EUMeTrain) and Radar working groups and will augment this ensemble with NWP and Climate working groups during the next programme phase. These working groups act the training authority defining the outlines of training in Europe and giving recommendations on current and upcoming issues within their dedicated field.

Solutions for Upcoming Requirements

The current wealth of resources developed in the Eumetcal programme along with expertise in Computer Assisted Learning (CAL) methods creates a natural platform to build a cooperative approach and makes Eumetcal a central solution to all of the abovementioned challenges faced by the field of meteorology.

Eumetcal will discuss the need for quality assessment and certification in training through a common certification scheme and training syllabus (the Eumetcal College). Courses given as a mix of traditional classroom sessions, distance learning sessions and computer aided self-study material (an approach hereafter called “blended learning”) will benefit from the strong foundation built during the two previous phases of the Eumetcal Programme.

We will start giving blended learning courses on-line and thus begin the establishment of the Eumetcal Virtual College. We prepare currently two pilot courses to evaluate the Eumetcal College framework. In February 2007 we prepare to hold an aviation course which contains 2 months distance learning, VisitView online sessions and one ordinary classroom session, the blended learning approach. Competency assessment in for the aviation meteorologists will follow the course. We are also preparing another pilot course in synoptic/NWP meteorology to be held in late spring 2007. Eumetcal is biding for extra EC-funding for valorisation of these courses.

The combination of a homogeneous syllabus and distance learning techniques provides a very cost-effective solution to the certification of aviation forecasters and the competency assessment of meteorological staff. The programme aims to create and valorise the training process in 2007 and coordinate the delivery of training courses in the following years.

International and European cooperation in meteorological training is very important due to the high cost of competency assessment and reducing number of forecasters. NMSs need to adjust their own training activities to take the maximum benefit from each others resources. The Eumetcal Programme offers NMSs the means and opportunities for effective organisation of their training activities.