EUMETSAT Satellite Data User Conference

Session 9 - Activities for Learning in Meteorology

Session Wrap-up Panel Discussion

General Panel Discussion Topic – what are the training needs and methods used in Meteorology – what have we learnt and what is the way forward?

The Panel was pleased to note that there is now a very high level of cooperation on meteorological training within Europe and elsewhere. The cost of creating and delivering training was huge, and the task could only be met through the sharing of resources on both the regional and global scale. The training community also had to consider the huge investment made in launching and operating satellite systems. However, the Panel believed that the financial impact of not providing training in the use of data and products from these assets was far greater than the cost of the satellites.

Whilst training still focused predominantly on forecasters, this was slowly changing so that, increasingly, scientists and IT experts developing new meteorological and climate-related services require training in the use of satellite data and NWP output. Another issue was the “continuity” of training, since much NMS training now supported the professional career development of Staff. Thus there was a need for training competence recognition, which in turn lead to the concept of training to a certified standard. The Panel recalled that this was increasingly a requirement for aviation forecasters around the world, and could represent a real problem for the developing countries. Competence also had to be tested at regular intervals, so consideration should be given to a forecaster training simulator module, rather similar in concept to that used by airline pilots, where the forecaster could periodically practice skills in various disaster situations related to high impact weather or other things such as smoke pollution, oil spill, or toxic release into the atmosphere. Such simulators would allow the synergistic use of resources for specific purposes and train the forecaster to do the right thing at the right time.

It was interesting to note that at least one presentation in the session clearly demonstrated that through a specific evaluation technique, well trained forecasters added significant value to the interpretation of NWP output. There was broad interest amongst the Panel in testing this evaluation technique in other NMS training institutes.

The Panel also appreciated the fact that there had to be a widening in the scope of training activities. This would be necessary to both address training in other application areas related to at least some of the GEO Societal Benefit Areas, and the application of data and products coming from the next generations of satellites.

The Panel noted that there had been significant advances in training methodology, even over the last 5 years, and the concepts of distance learning and CAL were widely accepted; indeed, they were expected as part of the modern training culture, especially by the younger generation. How best to carry out such training techniques and how to meet the growing range of user requirements for training were key issues.
A couple of specific examples cited were how to introduce audio within VisitView sessions and solving port access problems created by NMS firewalls. Additionally, training was becoming far more “mobile” in character, thus training resources had to be transportable, translatable and access by students had to be made as easy as possible. Since the cost of creating training resources was very high, to be cost effective, they have to be reusable and easily kept up to date. They also had to address the highest priority needs of the user communities.

The Panel noted that many of these issues, along with the assessment of new techniques, such as Flash, were already being addressed by the Eumetcal Technical Advisory Group. Some Panel members cautioned that whilst such advances were highly desirable, account had to be taken of the fact that they might not be so easily accommodated in developing countries, where Internet connectivity and training infrastructure often required considerable enhancement. Whilst there remained frustrations, even in these countries there had been major advances in training capability. Even so, the Panel considered that future training sessions at User Conferences should perhaps focus more on solving the problems associated with training outreach to the poorer countries.

Another important aspect was the need for resources, human and financial, and the fact that Managers had to be convinced of the importance and benefits of training for their Staff using these modern methods. Training supporting the development of decision tools that allow the issue of new advisory and warning services would clearly be highly attractive to many NMS Managers. Additionally, there may be a need to make more use of the private sector to assist with the creation and delivery of training resources. There was also a need for more trained trainers, not merely to take account of the inevitable turnover of Staff, but also to address the expected wider scope of training in future years, needed to meet the requirements of evolving target audiences. Despite the growing culture of self-learning, people were still needed to work with people – it was not good enough to merely “dump” new training resources onto the web and say “please help yourself!”; the student support/mentor concept was still a very important component of self-training.

In conclusion the Panel were confident that the various training problem areas and goals highlighted during the session could be met in the years to come. The training process now relied totally on effective international cooperation, the support of Managers, and the willingness of all concerned to create and deliver the training resources, taking account of evolving technology and techniques, and so clearly needed by a growing user community.