

INTRODUCTION

It is now most likely that variational methods are going to be the successor of Optimal Interpolation in several NWP centres. The purpose of this workshop is to review the three-dimensional aspects of the variational approach and to discuss the relative strengths and weaknesses of 3D-var and OI, both being different algorithms to solve the same statistical problem.

Variational algorithms enable easy handling of observations not directly related to model variables. This opens some new possibilities and the issue is addressed by one of the working group. The use of background information in 3D-var is a key point, as it has been for 15 years in OI; this is the subject of the second working group. The third working group is investigating beyond 3D-var, namely how to deal with the temporal dimension, with 4D-var as the natural evolution to 3D-var, and Kalman filter a comprehensive statistical framework.

On behalf of ECMWF, we would like to thank the lecturers and observers for their very valuable contribution.

It can be added that, at the time of this introduction, the outcome of the working groups has significantly influenced both the short term and long term data assimilation plans at ECMWF and a special thanks is due to their chairman, R Daley, J Pailleux and O Talagrand.