

FOREWORD

The term Space Weather refers to dynamic features of the space environment. It is studied in order to help protect space and ground systems (technical and biological) from space environmental hazards. Space Weather is a naturally multi-disciplinary and international subject. This was reflected in the attendance of more than 130 people from diverse fields of expertise at the three-day “ESA Workshop on Space Weather”, held at ESTEC from the 11th to 13th November 1998.

The number of European space missions will increase in the future and their higher sensitivity to the space environment will be unavoidable due to developments in technology. With this in mind and with the approach of the next solar maximum, it has become apparent that emphasis should be placed on the understanding of the space environment. At the moment Space Weather activities in Europe are to some extent fragmented. Collaborative efforts involving historical data, models, near real-time data from spacecraft and ground-based observatories, and simulations are essential if one wishes to establish any advanced forms of space environment prediction system. Furthermore, it has become evident for the scientific community that it also needs inputs from potential users of future Space Weather services. This is important when identifying the phenomena in the Solar-Terrestrial environment that cause the main problems for users and defining the time scales and precision of predictions that are required.

In the context of the above, the main aims of the workshop were to investigate the maturity in the field of European groups and how best to co-ordinate efforts to provide the services identified as needed by potential users. The first two days of the workshop were held in plenary sessions based on invited review talks and contributed posters covering the very broad spectrum of Space Weather related subjects (Effects and Users, Physical Processes / Presentation of Data, Models and Data, Various World-Wide Space Weather Initiatives). The third day was dedicated to three working groups each having pre-defined objectives and included open discussion and presentations of summaries in a final plenary session. These proceedings include the review papers, poster papers and the three working group resumés. We hope you will find them useful for your future endeavours in the Space Weather field.

We wish to acknowledge the scientific advisory committee for their invaluable contributions in defining the versatile profile of this workshop. We also wish to thank Nico de Boer, Michel Guérin and Uffe Mortensen for their support in making this workshop truly international.

We wish to express our gratitude to the ESTEC Conference Bureau (Marjolijn Brons, Gonnje Elfering and Saskia Haasnoot and colleagues at CONGREX BV) for their help and support in the organisation and execution of this workshop. Thanks to Rene Kloos for continuously updating the external workshop www page. Finally, special thanks go to everybody who took the time and energy to participate in this workshop, and particularly those who put extra effort into the working groups, and helped make it a considerable success.

The Local Organising Committee