SCOSTEP (Scientific Committee on Solar-Terrestrial Physics) began implementing its CAWSES (Climate and Weather of the Sun-Earth System) program in 2004, and it formally ended at the end of 2008. An international symposium on CAWSES was held at Kyoto University, Kyoto, Japan during October 23–27, 2007, to examine the progress that was made during CAWSES as well as to look forward to the future.

This symposium included tutorial lectures by Prof. E. Parker, on “Hydrodynamics, Magnetohydrodynamics, and Astrophysical Plasmas”; by Prof. A. Nishida on “Early Japanese Contributions to Space Weather Research—1945–1960”; and by Prof. M. A. Geller on “The 1960s—A Decade of Remarkable Advances in Middle Atmosphere Research.” They were given with the intent of introducing all participants to the various aspects of solar-terrestrial physics no matter what their specialty area. There were also 16 keynote papers, again with the intent to familiarize all participants to research on various aspects of the solar-terrestrial system.

This book contains written versions of all three of the tutorial talks (Geller, Nishida, Parker) and 11 of the keynote talks (Beer, Dikpati, Forbes, Fröhlich, Gopalswamy, Haigh, Labitzke, Fukao, Tsuneta, Vincent, Zelenyi).

The editors hope that this book gives a good sense of both the historical context for present day solar-terrestrial research as well as its status during the latter stages of the CAWSES program.

The editors wish to acknowledge the excellent work of the international program committee for this conference, which was chaired by Prof. Y. Omura, and the local organizing committee for this symposium, which was chaired by Prof. T. Ogino. All success of this book is a consequence of the excellence of the symposium. We also wish to acknowledge that two of the most prominent Japanese scientists in SCOSTEP and CAWSES research retired near the time of the Symposium, Professors S. Fukao and Y. Kamide. We thank them for their years of valuable contributions.

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