Koch, G.W., Mooney, A.A. (ed.): **Carbon Dioxide and Terrestrial Ecosystems.** - Academic Press, San Diego - New York - Boston - London - Sydney - Tokyo - Toronto 1996. ISBN 0-12-505295-2. xvi + 443 pp.

The impact of global climate change, mainly the still increasing atmospheric CO_2 concentration, on biosphere became one of the greatest problems of the recent world. The increased emissions due to industrialization, and extensive deforestation are accounted for only in part by increases in the atmospheric CO_2. The remainder of the CO_2 is taken up by the oceans and by terrestrial ecosystems. The reviewed book represents a first synthesis of the major CO_2 experiments on terrestrial ecosystem level, many of which are ongoing. The book appeared in the series Physiological Ecology, edited by Harold A. Mooney, and contains 22 chapters written by 70 specialists from 6 countries (U.S.A., France, The Netherlands, Switzerland, Scotland, and Germany). The book was developed in cooperation with the Global Change and Terrestrial Ecosystem project of the International Geosphere Biosphere Program and funded by the U.S. Department of Energy and the Electric Power Research Institute.

Chapters are grouped into four sections: three of them deal with woody ecosystems, unmanaged herbaceous ecosystems, and crop ecosystems, the fourth one is devoted to general problems of the future studies of this project. The first section, chapters 1 to 7, summarizes mainly the effects in different tree species of elevated CO_2 concentration, alone or in combination with nitrogen, on net photosynthesis and content of chlorophylls, carbon balance, formation and partitioning of photosynthates and dry matter, root/mycorrhiza relationships, and litter quality and decomposition. The second section, chapters 8 to 12, discusses the functioning and production of natural herbaceous ecosystems, such as prairie, alpine, arctic, and wetland vegetations, under enhanced CO_2 concentration. The third section, chapters 13 to 15, is devoted to crops grown under free-air CO_2 enrichment facilities. Photosynthesis, water relations and water use efficiency, and growth analysis are the main topics followed. The last section, chapters 16 to 22, synthesizes and summarizes the physiological background of the processes studied, and presents numerous methods, models, experimental facilities, tools, and approches useful in future research.

The book is produced in the traditionally good standards of Academic Press publications. It is well edited, and is accompanied with a fairly detailed subject and plant index. I am convinced that the book will be welcome by plant scientists interesting in the experimental treatment of the plant response to global climate change.

J. ČATSKÝ (*Praha*)