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WORLD METEOROLOGICAL ORGANIZATION
GLOBAL OZONE RESEARCH AND MONITORING PROJECT—REPORT NO. 18

Report of the International Ozone Trends Panel – 1988

VOLUME I

**ORIGINAL CONTAINS
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**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
FEDERAL AVIATION ADMINISTRATION
WORLD METEOROLOGICAL ORGANIZATION
UNITED NATIONS ENVIRONMENT PROGRAM**

OZONE TRENDS PANEL REPORT

ORIGINAL PAGE
COLOR PHOTOGRAPH

Dedicated to the Memory of
Stephen B. Fels



Steve in the Colorado Rockies, 1986.

This report is dedicated to the memory of Stephen B. Fels, a key member of the Ozone Trends Panel, a senior scientist at the Geophysical Fluid Dynamics Laboratory/NOAA, and a Lecturer with Rank of Professor at Princeton University.

Steve was a central figure in many of the discussions on critical aspects of this Report's conclusions and the evidence supporting them. In particular his deep scientific insights provided essential input toward resolving the serious discrepancies between the apparent trends of ozone and temperature in the upper stratosphere over the past decade. Without his analysis (and some gratifyingly reliable satellite temperature data), the report's conclusions would have been far less robust.

It is a personal privilege to be able to offer this tribute to Steve's impact upon his wide circle of scientific colleagues. First and foremost, Steve was a relentless advocate and devotee of fundamental scientific rigor. He had little use for flimsy handwaving as a substitute for definitive scientific analysis. Conversely though, he had a remarkable ability to initiate and engage in freewheeling, interactive discussions on a prodigious range of scientific (as well as political, economic, and social) problems. Hammering down (or shooting down) his and others' new ideas defined his approach to research.

It was his rare combination of rigor, knowledge, and openness that led to the evolution of Steve as my closest colleague, confidant, and critic. As colleagues, the two of us worked directly together and taught a course together for more than a decade. As confidant, he was the one I first sought out for independent and frank evaluation of many decisions and management issues that plagued me. As a critic, he most likely was not my severest. Almost uniquely, however, his points of disagreement were always completely made known to me. He once said to me after I was "promoted" to management, "I insist on still treating you with the same healthy disrespect you deserve." In his always humorous way, he had that exactly right. I may or may not have "deserved" such a level of unfiltered frankness, but I consider it to have been a gift of priceless value to me.

I submit that it was Steve's combination of rigor, knowledge, frankness, and love of science that made him such an invaluable colleague to the wide range of scientists that knew him, debated with him, and worked with him. I would also submit that these attributes were cemented into something special by his irrepressible sense of humor. Even the most serious of tensions were frequently defused by his humorous comments, invariably peppered by his impeccable linguistic touch.

Because of these things and more, it is singularly appropriate that this report be dedicated to Stephen Fels. Those of us who knew him have become deeper, more creative, and more honest scientists simply because he was with us for that brief interval. I know I speak for many friends and colleagues when I say that Steve was a special and irreplaceable friend whose absence I still feel every day.

Jerry D. Mahlman

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