

Foreword

GRAEME L. STEPHENS

Department of Atmospheric Science, Colorado State University, Fort Collins

There are many people who knew Rudolph (Rudy) Preisendorfer better than I and who could have written this foreword. In suggesting and coordinating this special section, which is dedicated to his memory, I was heartened and at times overwhelmed by the response. Certainly, this response, which has materialized as several outstanding contributions in this journal, is a true and lasting testimony to both the man and his work.



Rudolph W. Preisendorfer

his enormous talents on a new area of research; that of climate and statistical analysis. The individual contributions contained in this special issue best demonstrate the impact of his work to both topics.

I will not provide biographical details here, since this information is well presented in the necrology written by Curt Mobley and published in the *Bulletin of the American Meteorological Society* [Mobley, 1987]. Rather, I would like to share just a few of my impressions of the man and his work. If asked to use one word to describe both Rudy Preisendorfer and his work, I would use "elegant." I find his mathematical treatises on radiative transfer to be clear, elegant, and insightful. The impressions that Rudy's work is abstract and occasionally lacks in intuitive appeal are unfortunate, and, based on my conversations with Rudy, are not accurate. I recall one particular conversation regarding underwater refraction and total internal reflection (refer to *Preisendorfer* [1976]). Rudy told me of how the mathematical description of the phenomena was, to his own curiosity, unconvincing. He explained how he entered a pool and weighted down by bricks on his chest, established the reality of the "optical manhole" [Preisendorfer, 1976]. This is just one of many other stories we shared that demonstrated how he thought first about the physical processes of radiative transfer and then expressed them using elegant mathematics.

Rudy was also very devoted to his work and at times it seemed to me that he was driven by it. I will never forget the time of our joint research late in 1979 (subsequently published in 1984, see *Preisendorfer and Stephens* [1984]) and the notes we exchanged. Rudy's notes were meticulous, written neatly by hand, and always dated. I remember receiving one 20-page manuscript from him dated December 25, 1979!

As a final comment, Rudy confided in me of his frustrations at not being able to share his vast knowledge with young interested minds and of his yearning to be more involved with teaching. Rudy taught me much, and I shall miss him greatly. This special section is dedicated to his memory and I thank all those who have been able to contribute as well as those who communicated to me that they were unable to do so.

It will come as a surprise to some to learn that I personally met Rudy only four times, although we did correspond on a somewhat infrequent basis from time to time since we first met in 1976. At that time I was completing my Doctorate at Melbourne University in Australia on a subject that dealt with radiative transfer. Our first meeting was in some ways ironic, as I was then about to embark on a career in radiative transfer and Rudy was about to leave this subject (something thankfully he could never do) and to concentrate

REFERENCES

- Mobley, C. D., Necrology - Rudolph William Preisendorfer 1927-1986, *Bull. Amer. Meteor. Soc.*, 68, 56, 1987.
- Preisendorfer, R. W., *Hydrologic Optics*, vol. I, Introduction, pp. 33-37, Pac. Mar. Environ. Lab., Environ. Res. Lab., Natl. Oceanic and Atmos. Admin., Seattle, Wash., 1976. (Available as NTIS PB- 259793/8ST from the Natl. Tech. Inf. Serv., Springfield, VA.)
- Preisendorfer, R. W., and G. L. Stephens, Multimode Radiative Transfer in Finite Optical Media. I: Fundamentals, *J. Atmos. Sci.*, 41, 709-735, 1984.

Copyright 1988 by the American Geophysical Union.

Paper number 88JD03163.
0148-0227/88/88JD - 03163\$02.00