

Vita (Updated December 1979)

Heinz Helmut Lettau, born in Koenigsberg, Germany on November 4, 1909, was awarded his Ph.D. at the University of Leipzig in 1931 in Geophysics and Meteorology. Also in Leipzig he received the degree of "Ph.D. habilitatus" in 1937. In the course of Dr. Lettau's experience he has been associated with a number of scientific and research Institutes in this country and in Germany, and conducted field research at various places abroad, including Thailand and Peru.

He has been actively engaged in various committees of the National Academy of Sciences in Washington, D.C., including the "Panel on Weather and Climate Modification" (1965-1966), and a working group on problems of the international "Global Atmospheric Research Program - GARP", and the "Advisory Panel for Antarctic Programs", Division of Environmental Sciences, National Science Foundation, Washington, D.C.

At the University of Wisconsin, Dr. Lettau was Visiting Professor during the Spring semester 1957, and accepted a joint appointment in the departments of Meteorology and Civil Engineering in 1958. From 1962 to 1964 he served as Chairman of the Department of Meteorology. During the winter semester 1962-63, he was Visiting Professor at the University of Hamburg, Germany, to teach courses on Planetary Atmospheres. Honors include "AMS-Fellowship" (1968), and in 1971 award of the "Increase A. Lapham Professorship" by the University of Wisconsin. In 1974 and 1975 he received three distinguished research awards, the "Carl-Gustaf Rossby Medal" of the American Meteorological Society, the "Alfred Wegener Medal" of the "Deutsche Meteorologische Gesellschaft", and a Senior Research Fellowship of the "Alexander von Humboldt Foundation" of the Federal Republic of West Germany.

During his tenure at the University of Wisconsin, 30 M.S. theses and 22 Ph.D. theses were completed by graduate students who did research work with Professor Lettau as "major professor". Of these Ph.D.'s, fifteen are presently in academic positions (five at universities in foreign countries including Australia, Brazil, Chile, Korea, and Turkey), three perform research in U.S. government positions, and four with independent organizations such as Stanford Research Institute.

Professor Lettau has done active research work and published scientific papers since 1929 in a variety of fields. A complete list of his publications includes more than 160 titles.

Major publications include a book entitled "Atmosphaerische Turbulenz" published by Akademische Verlagsges, Leipzig, 1938, reprinted by J. Edwards, Ann Arbor, 1944; an edition of two volumes entitled "Exploring the Atmosphere's First Mile", published by Pergamon Press, London and New York, 1957; several original articles in compendiums and encyclopedias such as "Compendium of Meteorology" (1951, article on diffusion in the upper atmosphere), "Landolt-Boernstein's Zahlenwerte and Funktionen, 6th ed." (1951, articles on earth tides, and turbulent exchange in the lower atmosphere), "Handbook of Geophysics" (1958, articles on wind, and temperature), "Handbuch der Aerologie" (1961, article on turbulence and flight response), "Encyclopedia of Science and Technology" (1960, article on micrometeorology). The scientific results of field work in Peru are summarized in "Exploring the World's Driest Climate", IES Report 101 (264 pages) published by University of Wisconsin's Institute for Environmental Studies, Center for Climatic Research, 1978.

The articles in scientific journals published during the last ten years by Dr. Lettau include the following titles:

- "Bulk Transport of Sand by the Barchans of the Pampa de La Joya in Southern Peru" (co-author: K. Lettau) Annals of Geomorphology, Vol. 13, pages 182-195, 1969.
- "Shortwave Radiation Climatology" (co-author: K. Lettau) Tellus, Vol. 21, pages 208-209, 1969.
- "Antarctic Atmosphere as a Test Tube for Meteorological Theories", pages 443-475, in Research in the Antarctic, (L. Quom, editor), AAAS, Washington, D.C., 1971.
- "Topographic Influence on Tornado Tracks and Frequencies in Wisconsin and Arkansas" (co-author: R.G. Gallimore) Wisconsin Academy of Sciences, Proceedings, Vol. 58, pages 101-127, 1971.
- "Evapotranspiration Climatology" Part I: A new approach to numerical prediction of monthly evapotranspiration, runoff, and soil moisture storage; Part II: Refinement of Parameterization, exemplified by application to the Mabacan River watershed (co-author: M. Baradas) pages 691-699 of Vol. 97, and pages 636-649 of Vol. 101, Monthly Weather Review, Washington, D. C., 1969 and 1973.
- "Semi-Diurnal Wind Variation in the Friction Layer above the Tropical Ocean", Boundary-Layer Meteorology, Vol. 6, pages 13-33, 1974.

- "Regional Climatology of Tundra and Boreal Forests in Canada" (co-author: K. Lettau) pages 209-221, in Climate of the Arctic, (G. Weller and S. Bowling, eds.), University of Alaska, Fairbanks, 1975.
- "Climatological Modeling of Temperature Response to Dust Contamination of Antarctic Snow Surfaces", Boundary-Layer Meteorology, Vol. 12, pages 213-229.
- "Air Temperature and Two-Dimensional Wind Profiles in the Lowest 32 m as a Function of Bulk Stability", (co-authors: A. Riordan and M. Kuhn), No. 6, pages 77-111, in Meteorological Studies at Plateau Station, Antarctic Research Series, Vol. 25, American Geophys. Union, Washington, D.C., 1977.
- "Explaining the World's Driest Climate" Chapter XII, pages 182-248 of IES Report 101, University of Wisconsin, Madison, 1978.
- "Amazonia's Hydrologic Cycle and the Role of Atmospheric Recycling in Assessing Deforestation Effects" (co-authors: K. Lettau and Luiz Carlos B. Molion), pages 227-238, Monthly Weather Review, Vol. 107, 1979.
- "Wind and Temperature Profile Prediction for Diabatic Surface Layers Including Strong Inversion Cases", Boundary Layer Meteorology, Vol. 16, 1979.

Heinz Lettau, 1551 Ben Sawyer Blvd., # 6A, Mount Pleasant, SC, 29464 USA

Chronology of invited appointments as Visiting Professor and-or advising Senior Scientist

Dates and place

Host and activities

1962, Oct.--> 1963, Feb.

Prof. Brocks; Lectures on Atmospheric Turbulence.

1971, Jul. --> 1971, Aug.

Advising: Re-analysis Helgoland Windprofile, also of data from buoy anchored on equatorial Mid- Atlantic Ocean

Met. Inst., *Univ. Hamburg*

1974, Jun.--> 1975, Jan

Prof. Flohn; Lectures on Micrometeorology

Humboldt Prize Awardee

Research as fellow of the A.von Humboldt Stiftung

Met. Inst., *Univ. Bonn*

Re-analysis of the Antafagosta Field Experiment, Chile

1975, Jan --> 1975 Apr

Meteorol. Office -- Lecture on Atmospheric Diffusion

Cairo, U. Arab. Rep of Egypt

Advising: Evapotranspiration on irrigated fields

WMO assignment;

Research: Water budget of Oasis El Fayum

1975, Jul.--> 1975, Aug.,

Atmospheric Science Laboratory

Menlo Park Ca, USA

Lecture on Boundary-Layer Meteorology & Climatology

Stanford Intern. Research. Institute

Advising: Analysis of airborne survey of St. Louis temp.

1978, Jul.--> 1978, Aug.

Dr. Louis Molion, Active Research;

San Jose dos Campos, Brazil

Evapoclimatology of the Amazon System with emphasis on deforestation effects

INPE, Inst. de Pesquisas Espaciais

1980, Mar --> 1980, Mar

Department of Civil Engineering

Caracas, Venezuela

Short Course, 15 Lecture hours, on Applications of

Simon Bolivar Universidad

"climatomia a problemas hidrológicos "

1980, Aug --> 1980, Aug.,

Prof. Jose Rutland Costa, Lectures on Boundary-Layer

Univ. Santiago, Chile

Jetstream along the Pacific coast of South America

1981, Feb --> 1981, Feb

Ciudad Universitaria; School of Earth Sciences

Univ. Mexico City, Mexico

Short Course: Overview of Climatology

1982, Jul.--> 1982, Aug

Prof. I.Dirmhirn, Utah State College, Dept. Env. Scie

Logan, Utah

2-Cr Course, Climatology & Cache Valley Hydrology