

Luiz Carlos B. Molion

The Hydrological Cycle



Born in Sao Paulo (Brazil) on October 30, 1946. He received a B.Sc. degree in Physics at University of Sao Paulo in 1969, and a Ph.D. degree in Meteorology at University of Wisconsin, Madison, USA, in 1975. He carried out his postdoctoral program at the Institute of Hydrology, Wallingford, UK, in 1982. He has published books and various articles in Brazilian and international scientific journals. His areas of research are Vegetation and Atmosphere Interactions, Climate Variability and Global Climate Change, mainly with respect to the role of the Amazonas Forest as a global climate control. Since January 1970 he is a Senior Research Scientist at the National Institute for Space Research (INPE), Secretary of Science and Technology of the Presidency of the Republic in Brazil, where he occupied several administrative positions, the last one being the Director of Atmospheric and Space Sciences Division. He is a member of the Core Project *Biospheric Aspects of Hydrologic Cycle* of the *International Geosphere Biosphere Programme* (IGBP/ICSU) and of the IGBP/WMO Working Group of *Land Surface Experiments*. Presently, he is on leave from INPE occupying the position of President of the *Foundation for Advanced Studies in the Humid Tropics* (UN-ITROP) with headquarters in Manaus, Amazonas. — Address: Laboratory for Atmospheric and Oceanic Research (LPAO), Instituto das Pesquisas Espaciais (INPE), São José dos Campos, SP, Brazil.

Objectives

The main objective for coming to the Wissenschaftskolleg was to compose a group of Senior Fellows of the *International Geosphere Biosphere Program* (IGBP), who were in charge of helping to write the Core Projects for the Program. I took part as an expert in Tropical Rainforest Climatology-Hydrology for the Core Project "*Biospheric Aspects of the Hydrological Cycle*" (BAHC). After I arrived here, I was informed that, be-

sides this main task, we were asked to put together a comprehensive text-book on the global changes of the Geosphere-Biosphere.

Results

To my judgement, the results were quite satisfactory. During the months of November through February, we worked and completed the first draft of BAHC. The original version had 68 pages, single-spaced lines, which we were asked to reduce to about 40 double-space typed pages. The draft was, then, handed to the Secretariat in Stockholm that is now in charge of the editing process; in September, the Core Project Reports will be submitted to the Scientific Advisory Committee of IGBP and, if approved, published and distributed world-wide. It should be pointed out that BAHC was the only Core Project that had no previous write-up elsewhere and its first draft was completely conceived and developed at the Wissenschaftskolleg.

The text-book is under way. I already handed to Dr. Harold Schiff, who is the editor-in-chief of the book, contributions on Surface Energy Budget, Hydrological Cycle and Tropical Deforestation and Biomass Burning Effects on Global Climate. Contributions to other topics are in preparation and they will be handed in as they are being completed.

The stay at the Wissenschaftskolleg was an excellent opportunity to establish both scientific and political contacts. Noteworthy political contacts were the meeting with the Brazilian President, Fernando Collor de Mello, in Berlin; with the President of Italy, Giulio Andreotti, in Manaus; the short contact with Dr. Willy Brandt, by the occasion of his conference at the Wissenschaftskolleg, and the meetings with Dr. Dagmar Luuk, Berlin Senator, MdB. From the scientific side, a large number of individual scientists were contacted and German institutions, such as DSE — *Deutsche Stiftung far Internationale Entwicklung* — and Max-Planck Society were approached for establishing scientific cooperation programs in Amazonia. It should be mentioned also that the concept and general guidelines of the University of the Humid Tropics (UNITROP) benefited from the discussions held with some fellows and staff members of the Wissenschaftskolleg.

Plans for future work include continuation of research in Tropical Forest-Atmosphere Interactions, the active participation in planning and executing IGBP projects, and direction of UNITROP. This latter activity is at a stage of implementation, establishment of political and scientific contacts and search for funds and financial support for projects related to

Amazonia. I count with the Kolleg and the fellows who I met here to divulge and help to take forward UNITROP. In this respect, any assistance and advice are welcome.

General Comments

I personally have no complaints regarding the infrastructure and logistics that were provided for me by the Kolleg during this six-month period. On the contrary, I have only to eulogise the Direction and the staff members of the Kolleg for all the support and assistance I have received here. It is unfortunate (or fortunate?) that I am in a very active stage of my life, being involved in large and complex projects, such as IGBP and UNITROP, which are highly time-demanding and time-consuming, otherwise I would certainly benefit even more from the excellent facilities that the Kolleg has and use my time to have a larger individual production.