

## RAYMOND B. MONTGOMERY (1910-1988)

Raymond B. Montgomery died on August 15, 1988 in Woods Hole, Massachusetts at the age of 78. His contributions to the understanding of the structure and motion of both the ocean and atmosphere were manifold and fundamental. A student of Carl-Gustaf Rossby, Montgomery conducted research that spanned a broad range of topics and scales, from turbulent mixing and heat transfer, to air-sea interaction; from the topography of the ocean surface, to the distribution of water masses in the world ocean. His research will perhaps be remembered best for his development and application of the techniques of isanosteric analysis, and for the discovery, with Cromwell and Stroup, of the Equatorial Undercurrent in the Pacific Ocean. He also sailed as a student on the maiden voyage of the *Atlantis*.

A list of specific achievements, how-

ever, provides an inadequate measure of Montgomery's profound influence on a generation of colleagues and students. He had a keen instinct in identifying major mechanisms of important oceanic and atmospheric processes which needed explanation. As a teacher and critic, he gave freely of this insight to encourage others in important directions of research. His high standards in scholarship and in the conduct of research served as a beacon for those around him. His friendship, insight and encouragement will be missed; his inspiration and influence will endure.

He leaves his wife, Polly, and three daughters: Kate Leonard, of Atascadero, California; Mary Howard, of Reading, Massachusetts; and Eleanor Montgomery, of Baltimore, Maryland.

*Contributed by William C. Boicourt and Glenn A. Cannon.*

## KONSTANTIN N. FEDOROV (1927-1988)

Konstantin Nikolaevich Fedorov, born in 1927 in Leningrad, USSR, died suddenly in Moscow on September 21, 1988. K.N. Fedorov earned a Ph.D. in physical oceanography at the Institute of Oceanology in Moscow, under the supervision of Professor Vladimir Shtokman. One of Fedorov's earliest scientific papers dealt with laboratory modeling of wind-driven circulation. From 1963 until 1970, he served as Secretary of the Intergovernmental Oceanographic Commission (IOC) of the United Nations Educational, Scientific and Cultural Organization. During this period he co-authored a paper with Henry Stommel on fine structure in the ocean. Fedorov also wrote scientific books on fine structure and oceanic fronts, and his most recent book, co-authored with his wife A.I. Ginzburg, is titled *The Near Surface Layer of the Ocean* (in Russian).

Many ocean scientists saw Konstantin recently at the Joint Oceanographic Assembly and the Scientific Committee on Oceanic Research (SCOR) General Meeting in Acapulco. It was his last meeting as a member of the SCOR Executive Committee, and this was recognized during a happy SCOR party at which Konstantin regaled attendees with anecdotes about the occa-

sional humorous misunderstandings which can occur in international collaborative activities. Farewells were said with regrets, but with the expectation that our paths would cross again in the course of international marine science.

Konstantin served as President of SCOR from 1976 to 1980 and as Past-President since then. He also chaired Working Group 69 on Small-Scale Turbulence and Mixing in the Ocean; one of the decisions of the SCOR General Meeting was to disband this group, which had completed its tasks with the publication of the proceedings of the very successful 1987 Liege Colloquium on the same topic. A final report of WG 69 is to be published by SCOR in the near future.

Konstantin N. Fedorov will be sorely missed by all who knew him and appreciated his sincere efforts to facilitate cooperation among oceanographers from all countries, both in his personal capacity and as a member of SCOR and Secretary of the IOC. His numerous scientific papers and books will remain as a lasting tribute to his significant contribution to physical oceanography.

*Contributed by Elizabeth Tidmarsh, Executive Secretary, SCOR, and Sergei Dikarev, Senior Visiting Scientist, Dept. of Oceanography, Dalhousie University, Halifax, N.S., B3H 4J1, Canada.*

## IS EL NIÑO BECOMING MORE COMMON?

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can speculate that El Niño variability will probably persist through the next century in similar fashion, regardless of the present global warming trend.

### References

- Bjerknes, J., 1961: El Niño study based based on analysis of ocean surface temperatures. *Inter Am. Trop. Tuna Comm. Bull.*, 5, 217-234.
- Carranza, L., 1891: Contracorriente marítima observada en Payta y Pacasmayo. *Bol. Soc. Geograf. Lima*, 1, 344-345.
- Carrillo, C., 1892: Hidrografía oceánica. *Bol. Soc. Geogr. Lima*, 2, 72-110.
- Deser, C. and J. M. Wallace, 1987: El Niño events and their relation to the Southern Oscillation: 1925-1986. *J. Geophys. Res.*, 92, 14,189-14,196.
- DeVries, T. J., 1987: A review of geological evidence for ancient El Niño activity in Peru. *J. Geophys. Res.*, 92, 14,471-14,479.
- Eguiguren, V., 1894: Las lluvias en Piura. *Bol. Soc. Geogr. Lima*, 4, 241-158.
- Horel, J. D. and A. G. Cornejo-Garrido, 1986: Convection along the coast of northern Peru during 1983: Spatial and temporal variation of clouds and rainfall. *Mon. Wea. Rev.*, 114, 2091-2105.
- Michaelsen, J., 1989: Long-period fluctuations in El Niño amplitude and frequency reconstructed from tree-rings. In: *Interdisciplinary Aspects of Climate Variability in the Pacific and Western Americas*, D. H. Peterson, ed., Am. Geophys. Union Monograph Ser., 48 (in press).
- Murphy, R. C., 1926: Oceanic and climatic phenomena along the west coast of South America during 1925. *Geogr. Rev.*, 16, 26-54.
- Quinn, W. H., V. T. Neal and S. Antunez de Mayolo, 1987: El Niño occurrences over the past four and a half centuries. *J. Geophys. Res.*, 92, 14,449-14,461.
- Schopf, P. S. and M. J. Suarez, 1988: Vacillations in a coupled ocean-atmosphere model. *J. Atmos. Sci.*, 45, 549-566.
- Schott, G., 1984 (1931): The Peru (Humboldt) Current and its northern vicinity in normal and abnormal conditions, translation by U. Radok, Coop. Inst. Res. Environ. Sciences, University of Colorado and NOAA, Boulder, Colorado.
- Schweigger, E., 1945: La "legítima" corriente del Niño. *Bol. Comp. Admin. Guano*, 21, 255-296.
- Shen, G. T., E. A. Boyle and D. W. Lea, 1987: Cadmium in corals as a tracer of historical upwelling and industrial fallout. *Nature*, 328, 794-796.
- Thompson, L. G., E. Moseley-Thompson and B. Morales-Arnao, 1984: El Niño-Southern Oscillation events recorded in the stratigraphy of the tropical Quelccaya Ice Cap, Peru. *Science*, 226, 50-53.
- Zebiak, S. E. and M. A. Cane, 1987: A model El Niño-Southern Oscillation. *Mon. Wea. Rev.*, 115, 2262-2278.