RAINFALL RATES AND THE VERTICAL DISTRIBUTION OF DIABATIC HEATING COMPONENTS OVER TROPICAL OCEANS

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A. SIGNIFICANT ACCOMPLISHMENTS

During the fall of 1993, nearly all of the emphasis on this project was devoted to the completion of Dr. Perry Ramsey's Ph.D. research. In December, Perry completed his doctorate; the title and Abstract from his thesis is included as part of this report. In January 1994, Dr. Ramsey presented a poster summarizing some of his research at the 8th Conference on Atmospheric Radiation held in Nashville, TN. In February 1994, we submitted two papers for publication, based on Dr. Ramsey's work. A copy of the conference preprint, as well as titles and Abstracts of both papers are included with this report. Finally, we learned recently that we have had a paper accepted for poster presentation at the European Conference on the Global Energy and Water Cycle to be held in London, England in July 1994. The title and Abstract for this presentation is also provided.

B. BIBLIOGRAPHIC REFERENCES

1. Manuscripts submitted

Ramsey, P.G. and D.G. Vincent, 1994a: Vertical profiles of convective heating over the equatorial Pacific. Part 1: Longwave radiation. (submitted to the Journal of Atmospheric Sciences).

Ramsey, P.G. and D.G. Vincent, 1994b: Vertical profiles of convective heating over the equatorial Pacific. Part 2: Q_1-budget results, including precipitation. (submitted to the Journal of Atmospheric Sciences).

2. Thesis

Ramsey, P.G., 1993: Radiative cooling profiles calculated from ECMWF analyses and ISCCP C1 data, and their application to determination of distributions of apparent convective heating in the equatorial Pacific. Ph.D. Thesis, Dept. of Earth and Atmospheric Sciences, Purdue University, West Lafayette, Indiana 47907, 163 pp.

3. Preprint

Ramsey, P.G., 1994: Calculation of clear-sky outgoing longwave radiation using ECMWF gridded fields and ISCCP C1 cloud data. Reprint, 8th Conference on Atmospheric Radiation, Nashville, TN, January 24-28, 1994, Amer. Meteor. Soc., Boston, MA, 3 pp.

4. Abstract

Ramsey, P.G. and D.G. Vincent, 1994: Calculation of longwave cooling profiles from ECMWF and ISCCP C1 data, with application to the vertical structure of apparent heat source in the tropics. Accepted for presentation at the European Conference on the Global Energy and Water Cycle, London, England, July 18-22, 1994.