

King discussed outstanding problems in the area of clouds and climate. This is a very broad topic, involving instrumentation problems as well as problems with theory. The current state of knowledge of cloud absorption, both total solar absorption and spectral absorption, was discussed in detail. The problem is that measurements show anomalously large cloud absorption compared to the theoretical predictions for clouds composed solely of liquid water and water vapor. Several hypotheses were discussed that have attempted to explain this discrepancy: large drops in the cloud drop-size distribution, aerosol particles (either interstitial to the cloud drops or embedded in cloud drops), and finite cloud geometry leading to leakage of radiation. Cloud spectral reflectivity presents additional problems, such as the *optical-thickness paradox*; optical depths derived from integrations of cloud microphysics observations do not necessarily agree with optical depths derived from spectral measurements of reflected solar radiation. The need for more observations utilizing spectral and angular information was emphasized.

4. Summary

This stimulating course contributed to greater understanding of radiation and climate through both the prepared lec-

tures and informal interactions during breaks and hospitality events. The large amount of information that was included will certainly require consideration and stimulate learning for much longer than the six days during which it was presented. Consequently, publication of the lecture notes, which is being planned under WMO auspices, will be very valuable for review and further independent study by the attendees and those who did not attend the course.

We express our congratulations to those who contributed to the success of this course. Special credit is due to Warren Wiscombe for his excellent job of organizing the faculty and coordinating the lecture material. NOAA's supporting personnel and John DeLuisi are due special praise for their exceptionally hard work in the planning, organizing, and administration of this course. Without these efforts, this workshop could never have been the success that it was.

Acknowledgment. This summary was prepared in part under the auspices of the CO₂ Research Division, U.S. Department of Energy by the Lawrence Livermore National Laboratory under Contract No. W-7405-Eng-48. ●

announcements¹

meetings of interest

9–10 June 1987. Rapid City, South Dakota will host a flash-flood-mitigation symposium on the 15th anniversary of the Rapid City flood. Sponsors include the city of Rapid City, state of South Dakota, Federal Emergency Management Agency, National Weather Service, U.S. Army Corps of Engineers, and U.S. Geological Survey. The purpose of the symposium is to encourage the participants to assess the changes in federal programs and local resources since the Rapid City flood, and to propose strategies that local governments can use to help protect their communities from future floods. Discussions will include: "Successes in Mitigation and Recovery After Disaster—Case Studies," "Alleviation of Flash Flood Hazards Through Pre-Disaster Planning," "Funding Strategies for Flash Flood Mitigation in the Eighties," "How to Reduce the Risk of Liability for Flood Plain Management Decisions," and "Innovations in Flash Flood Mitigation." Papers will address the discussion topics or describe projects or case studies. Rapid City will also present a new film on flash-flood mitigation techniques. The symposium will conclude with a bus tour of

the Rapid City floodplain and greenbelt. For additional information, contact Jan McCulloh, Federal Emergency Management Agency, Disaster Assistance Programs Division, Building 710, Denver Federal Center, Box 25267, Denver, CO 80225-0267. ●

Deadlines calendar

Fellowships, grants, etc.

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| 15 June 1987 | Macelwane Annual Award
(this issue, p. 137) |
| 15 June 1987 | Hanks and Orville Scholarships
(this issue, p. 137) |

Other

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| 13 February 1987 | requests for NCAR aircraft
(September BULLETIN, p. 1131) |
| 1 March 1987 | requests for NCAR field-observing support
(September BULLETIN, p. 1131) |
| mid-March 1987 | abstracts for International Symposium
on Flow and Transport in the
Natural Environment
(January BULLETIN, p. 35) |

¹ Notice of registration deadlines for meetings, workshops, and seminars, deadlines for submission of abstracts or papers to be presented at meetings, and deadlines for grants, proposals, awards, nominations, and fellowships must be received at least three months before deadline dates.—*News Ed.*