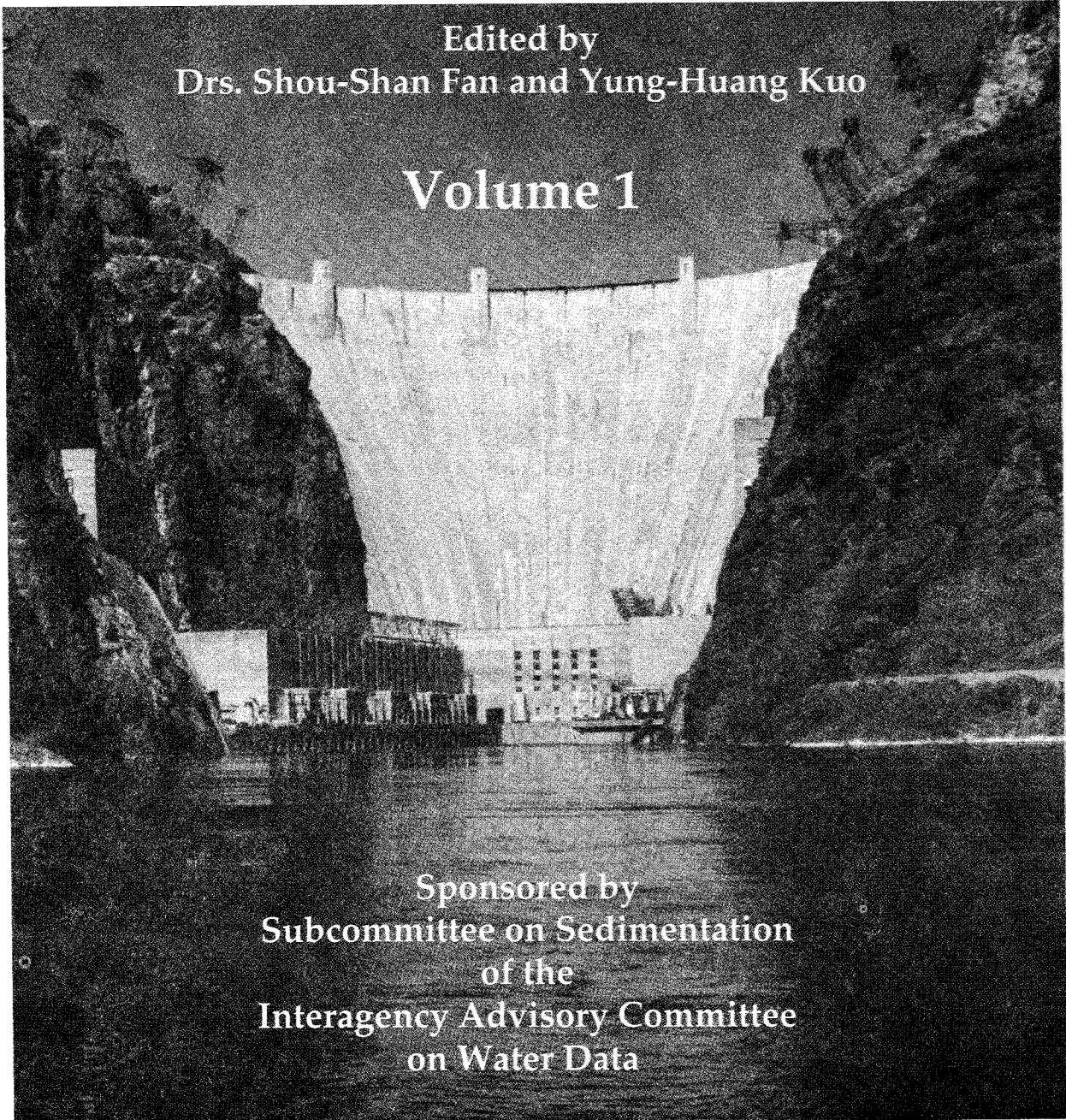


Proceedings of the Fifth Federal Interagency Sedimentation Conference

1991

Edited by
Drs. Shou-Shan Fan and Yung-Huang Kuo

Volume 1



Sponsored by
Subcommittee on Sedimentation
of the
Interagency Advisory Committee
on Water Data

PROCEEDINGS
OF THE
FIFTH FEDERAL INTERAGENCY
SEDIMENTATION CONFERENCE

MARCH 18-21, 1991

LAS VEGAS, NEVADA

Interagency Advisory Committee on Water Data
Subcommittee on Sedimentation

Agricultural Research Service (ARS)
Bureau of Land Management (BLM)
Bureau of Mines (BOM)
Bureau of Reclamation (USBR)
Corps of Engineers (COE)
Council on Environmental Quality (CEQ)
Department of Housing and Urban Development (HUD)
Environmental Protection Agency (EPA)
Federal Energy Regulatory Commission (FERC)
Federal Highway Administration (FHWA)
Forest Service (USFS)
Geological Survey (USGS)
National Oceanic and Atmospheric Administration (NOAA)
National Park Service (NPS)
Nuclear Regulatory Commission (NRC)
Office of Surface Mining Reclamation and Enforcement (OSMRE)
Soil Conservation Service (SCS)
Tennessee Valley Authority (TVA)

Printed by

Federal Energy Regulatory Commission

PREFACE

These proceedings of the Fifth Federal Interagency Sedimentation Conference contain 167 technical papers. This conference is sponsored by the 18-member Subcommittee on Sedimentation of the Interagency Advisory Committee on Water Data. The conference theme is "Practical Sediment Management: Issues and Answers."

The technical papers are organized under four major categories: keynote speeches, oral presentations, panel discussions, and poster sessions. The oral presentations are subdivided into 15 general sections which make up the symposium topics at the conference. The proceedings have been prepared in advance of the conference so that all papers could be available to conference participants during presentations.

The Subcommittee held four previous interagency sedimentation conferences--in Denver, Colorado, May 6 to 8, 1947; in Jackson, Mississippi, January 28 to February 1, 1963; in Denver, Colorado, May 22-25, 1976; and in Las Vegas, Nevada, March 24 to 27, 1986. All four previous meetings were conferences involving federal agencies only: papers and discussions were given only by the staff of the agencies on the Subcommittee and by individuals engaged in cooperative sedimentation work with the agencies.

For the first time, this conference brings together professionals and others from (1) the federal government, (2) state and local agencies, (3) universities, (4) the private sector, and (5) foreign organizations. In fact, around 50 nonfederal papers are included, many by scientists and engineers from Australia, Canada, China, Poland, Singapore, Taiwan and Turkey.

Since 1946, the Subcommittee has focused on interagency coordination. Here are some major ongoing Subcommittee activities that may be of interest to this group:

1. The Interagency Sedimentation Project at St. Anthony Falls Laboratory

The project is supported by most Subcommittee member agencies, who are making excellent progress in developing and testing sediment sampling devices.

2. Joint Studies of Computer Sedimentation Models

In 1987, an Ad Hoc Sedimentation Work Group of the Subcommittee developed a three-phase study. Since then, the group has completed two study phases, an inventory of over 50 models and a report entitled "Twelve Selected Computer Stream Sedimentation Models." The third phase, model testing, is underway.

3. Reservoir Sedimentation Survey

Every 5 years, the participating agencies publish current reservoir sedimentation data in a "Summary of Reservoir Deposition Surveys Made in the United States." The data, recently computerized, will soon be available to the public.

4. Annual Activity Report

An annual report, "Notes of Sedimentation Activities," summarizing all the member agencies' sedimentation work during the calendar year, is published and distributed the following year.

The following members of the Subcommittee are actively involved in organizing this conference:

General Chairman: Robert T. Joyce, TVA

Technical Program Committee:

Chairman: Shou-shan Fan, FERC

Vice Chairman: Donald Clarke, SCS

Members: Neil Coleman, ARS (Paper Review)
David A. Farrell, ARS (Chairman, Subcommittee)
Warren Harper, USFS (Paper Review)
Cliff Hupp, USGS (Paper Review)
William Jackson, NPS (Technical Trip)
Harvey Jobson, USGS (Paper Review)
John King, USFS (Paper Review)
Yung Huang Kuo, COE (Proceedings)
Richard Perry, NOAA (Vice-Chairman, Subcommittee)
Robert Strand, USBR (Technical Trip)
Robert Thronson, EPA (Paper Review)
D. C. Woo, FHWA (Technical-Poster Sessions)

Operation Committee:

Chairman: Douglas Glysson, USGS

Members: William Boning, USGS
Robert Brose, USBR
Ronald R. Copeland, COE
Truman Goins, HUD
Vito Latkovitch, USGS
Tim Randle, USBR
John Skinner, USGS
Robert Strand, USBR

Many thanks to all the participating agencies' representatives, who generously gave their time and efforts to make this conference a success.

Dr. Shou-shan Fan, Chairman
Technical Program Committee