



Association Française
pour l'Etude des Eaux

DOCUMENT NON SELECTIONNE

NUMERO G 11426

Trop spécialisé ☐
Sans intérêt ☐
Pas de mon domaine ☐
Pas le temps ☐

NOM : M^{me} PERAHIA

DATE ENVOI : 22 JAN. 1991

DATE RETOUR : _____

FICHE D'INDEXAGE

66/72 534

*AUTEURS .BRAKENSIEK DL, OSBORN HB, RAWLS WJ *

*TYPE .RAPPORT *

*TITRE .Field manual for research in agricultural hydrology *

*SOURCE .WASHINGTON, US GOV DEP AGRIC *

*DATE .1979, N° 224 *

*PAGES .547 + FIG + TABL *

*COTE .G11426 *

L'eau et l'agriculture. Ouvrage didactique pour les chercheurs
en hydraulique agricole concernant le cycle naturel de l'eau,
les mouvements de l'eau dans le sol et l'érosion des sols par
l'eau. Rien sur les plantes. G 11426 -

FIELD MANUAL FOR RESEARCH IN AGRICULTURAL HYDROLOGY



UNITED STATES
DEPARTMENT OF
AGRICULTURE

AGRICULTURE
HANDBOOK
NUMBER 224

PREPARED BY
SCIENCE AND
EDUCATION
ADMINISTRATION

G11426

66/72534

ABSTRACT

Brakensiek, D. L., H. B. Osborn, and W. J. Rawls, coordinators. 1979. Field Manual for Research in Agricultural Hydrology. U.S. Department of Agriculture, Agriculture Handbook 224, 550 pp., illus.

This publication was prepared to provide a complete set of techniques needed for the initiation and maintenance of hydrologic research projects. These techniques were obtained by soliciting information from experts and adapting material described in current literature. While this publication cannot replace individual instruction by an experienced person, it should serve as a reference for such instruction and, if followed, place the data in a form that will be suitable for potential analyses. Chapters 1, 2, and 3 deal with precipitation, runoff, and climate. Chapters 4, 5, and 6 discuss sedimentation, geology, and watershed characteristics and soil moisture. Each subject is divided into (1) installations, (2) field observations, (3) data reduction, and (4) data processing.

Key words: precipitation, runoff, climate, sedimentation, geology, soil conditions, watersheds, data reduction, data processing, field observations, field maintenance, site requirements, installations.

CONTENTS

	<i>Page</i>
Chapter 1. Precipitation	1
Chapter 2. Runoff	75
Chapter 3. Climate	215
Chapter 4. Sedimentation	239
Chapter 5. Geology	395
Chapter 6. Soil conditions and watershed characteristics	503

The authors gratefully acknowledge the help of commercial companies for supplying detailed information on their equipment.

Trade names are used in this publication solely for the purpose of providing specific information. Mention of a trade name does not constitute a guarantee or warranty of the product by the U.S. Department of Agriculture or an endorsement by the Department over other products not mentioned.

Department publications contain public information. They are not copyrighted and may be reproduced in whole or in part with or without credit.

INTRODUCTION

This publication was prepared to provide a complete set of techniques needed for the initiation and maintenance of hydrologic research projects. These techniques were obtained by soliciting information from experts and adapting material described in current literature. While this publication cannot replace individual instruction by an experienced person, it should serve as a reference for such instruction and, if followed, place the data in a form that will be suitable for potential analyses. Forms used here are illustrations only of how best to organize and record the data.

Chapters 1, 2, and 3 deal with precipitation, runoff, and climate. Chapters 4, 5, and 6 deal with sedimentation, geology, and watershed characteristics and soil moisture. Each subject is divided into (1) installations, (2) field observations, (3) data reduction, and (4) data processing.

Most hydrologic analyses and computations dealing with precipitation are expressed in surface inches. For streamflow and storage, however, quantities and rates often are expressed in units of feet, acres, and miles for easy conversion to structural dimensions.

The hydrologist continually is converting back and forth from surface inches and surface inches per hour to such volumetric units as cubic feet, acre-feet, and cubic feet per second-hours or to such units of rate as cubic feet per second and cubic feet per second per unit area. Table 1 lists common conversions in English units, and table 2 lists common conversions from English units to the International System (SI) units.