
Journal of the
HYDRAULICS DIVISION
Proceedings of the American Society of Civil Engineers

HYDRAULICS DIVISION
EXECUTIVE COMMITTEE

Harold K. Pratt, Chairman; Donald R. F. Harleman,
Vice-Chairman; W. C. Ackermann; Arno T. Lenz; Frederick R.
Brown, Secretary; Samuel I. Zack, Board Contact Member

COMMITTEE ON PUBLICATIONS

Francis G. Christian, Chairman; Frederick R. Brown;
Verne H. Scott; Harold K. Pratt, Executive Committee Contact Member

CONTENTS

September, 1965

Papers

	Page
Simplified Solution for Decreasing Flow in Wells by Gert Aron and Verne H. Scott	1
Use of Interrelated Records to Simulate Streamflow by Leo R. Beard	13
Yearly Sea Level Variations for the United States by Steacy D. Hicks and William Shofnos	23
Computer Simulation of Estuarial Networks by Robert P. Shubinski, James C. McCarty, and Marvin R. Lindorf	33
Sedimentation Aspects in Recreation Planning by Donald C. Bondurant and Robert H. Livesey (over)	51

Copyright 1965 by the American Society of Civil Engineers.

Note.—Part 2 of this Journal is the 1965-43 Newsletter of the Hydraulics
Division.

The three preceding issues of this Journal are dated March, 1965, May,
1965, and July, 1965.

	Page
Water Resources Planning for the Delaware Basin by Russell Morgan	65
Comprehensive Planning in the Southeast by George E. Tomlinson	81
The Hydraulic Jump as a Wall Jet by Nallamuthu Rajaratnam	107

DISCUSSION

Shapes for Appurtenances in Stilling Basins, by N. Narayana Pillai and T. E. Unny. (May, 1964. Prior discussion: November, 1964, January, 1965. Discussion closed.) by N. Narayana Pillai and T. E. Unny (closure)	135
Sand Transport Studies with Radioactive Tracers, by David W. Hubbell and William W. Sayre. (May, 1964. Prior discussion: November, 1964, January, 1965. Discussion closed.) by David W. Hubbell and William W. Sayre (closure)	139
Form-Induced Hydraulic Forces on Three-Leaf Intake Gates, by Rex A. Elder and Jack M. Garrison. (May, 1964. Prior discussion: March, 1965. Discussion closed.) by Rex A. Elder and Jack M. Garrison (closure)	149
Experiments on Small Streams in Alluvium, by Peter Ackers. (July, 1964. Prior discussion: November, 1964, January, March, 1965. Discussion closed.) by I. V. Egiazaroff	153
Characteristics of the Backwater Curve, by Harold R. Vallentine. (July, 1964. Prior discussion: March, 1965. Discussion closed.) by Harold R. Vallentine	159
Two-Dimensional Flow Over Sills in Open Channels, by Gary Z. Watters and Robert L. Street. (July, 1964. Prior discussion: January, March, 1965. Discussion closed.) by Gary Z. Watters and Robert L. Street (closure)	160
Optimum Design of a Multiple-Purpose Reservoir, by Warren A. Hall. (July, 1964. Prior discussion: November, 1964, March, 1965. Discussion closed.) by Warren A. Hall (closure)	162

	Page
Ground-Water Management for the Nation's Future: Effecting Optimum Ground-Water Basin Management, by Vernon E. Valentine. (July, 1964. Prior discussion: March, 1965. Discussion closed.) by Vernon E. Valentine (closure)	165
Turbulent Flow in Porous Media, by J. C. Ward. (September, 1964. Prior discussion: January, March, May, 1965. Discussion closed.) by D. K. Sunada	166
Estimating Evaporation from Insolation, by Robert K. Lane. (September, 1964. Prior discussion: January, March, May, 1965. Discussion closed.) by John C. Stephens	171
Multivariate Technique for Synthetic Hydrology, by Myron B. Fiering. (September, 1964. Prior discussion: May, 1965. Discussion closed.) by Myron B. Fiering (closure)	182
Geometrical Properties of Sand Waves, by M. Selim Yalin. (September, 1964. Prior discussion: May, 1965. Discussion closed.) by M. Selim Yalin (closure)	184
Mathematical Model for Floor Risk Evaluation, by Richard M. Shane and Walter R. Lynn. (November, 1964. Prior discussion: May, 1965. Discussion closed.) by Henry C. Riggs and Donald M. Thomas by Wenshang Pay	190 192
Use of Neutron Meters in Soil Moisture Measurement, by the Task Force on Use of Neutron Meters. (November, 1964. Prior discussion: None. Discussion closed.) by Kenneth Preiss by Edward R. Burroughs, Jr.	193 197
Errors in Piezometric Measurement, by William W. Emmett and James R. Wallace. (November, 1964. Prior discussion: May, 1965. Discussion closed.) by Chesley J. Posey by N. Rajaratnam	199 200
Hydraulic Studies of Jamaica Bay, by Armando Balloffet and Arnold Kupferman. (November, 1964. Prior discussion: May, 1965. Discussion closed.) by J. J. Dronkers by A. R. Halliwell	204 205
Salt Water Interface Near a Fresh Water Canal, by Norbert L. Ackerman and Pachern Sridurongkatum. (November, 1964. Prior discussion: May, 1965. Discussion closed.) by Paul Baumann	212

	Page
Hyperconcentration of Suspended Sediment, by Joseph P. Beverage and James K. Culbertson. (November, 1964. Prior discussion: May, 1965. Discussion closed.)	
by E. V. Richardson and T. F. Hanly	215
by Kenneth N. Phillips	220
Nappe Oscillation, by H. Ivan Schwartz. (November, 1964. Prior discussion: May, 1965. Discussion closed.)	
by K. Petrikat and T. E. Unny	223
Water Hammer Resulting from Cavitating Pumps, by M. R. Carstens and T. W. Hagler, Jr. (November, 1964. Prior discussion: May, 1965. Discussion closed.)	
by Bruce B. Sharp	229
Development of Ground Water in Hawaii, by Leslie J. Watson. (November, 1964. Prior discussion: March, 1965. Discussion closed.)	
by Franklin Y. K. Sunn	233
by Agatin T. Abbott	234
by Robert T. Chuck	234
by Frank Wiley	236
by L. Stephen Lau	236
by Doak C. Cox	238
Large-Scale Roughness in Open-Channel Flow, by John B. Herbich and Sam Shulits. (November, 1964. Prior discussion: None. Discussion closed.)	
by A. G. Mirajgaoker and Abhai K. Jain	242
by John A. Roberson	244
by E. M. O'Loughlin and K. K. Rao	251
by Jack C. Schuster	253
by David I. H. Barr	255
by Ben-Chie Yen	257
Considerations in Preserving Reservoir Sites, by James E. Goddard. (January, 1965. Prior discussion: None. Discussion closed.)	
by Harold E. Hedger	263
Educational Considerations for Environmental Engineering, by Robert L. Smith. January, 1965. Prior discussion: None. Discussion closed.)	
by Asit K. Biswas	264
Comprehensive Flood Damage Prevention, by John W. Weathers. (January, 1965. Prior discussion: None. Discussion closed.)	
by L. Douglas James	266

	Page
European Concepts of Sediment Transportation, by John L. Bogardi. (January, 1965. Prior discussion: None. Discussion closed.)	
by Johan A. Zwamborn	267
by I. V. Egiazaroff	269
by David I. H. Barr	274
Vertical Drainage of an Unsaturated Soil, by Irwin Remson, Ronald L. Drake, Samuel S. McNeary, and Edward M. Wallo. (January, 1965. Prior discussion: July, 1965. Discussion closed.)	
by Wilfried Brutsaert	280
Research Needs in Surface-Water Hydrology, by the Committee on Surface-Water Hydrology. January, 1965. Prior discussion: None. Discussion closed.)	
by Aubrey L. Sharp	282
by Asit K. Biswas	285
Generalized Critical Slope for Trapezoidal Channels, by Llewellyn E. Jones and Bijoy N. Tripathy. (January, 1965. Prior discussion: May, 1965. Discussion closed.)	
by Praxitelis A. Argyropoulos	286
by R. M. Advani	288
by Bent A. Christensen	293
by C. J. Apelt	296
by Ralph W. Powell	297
Weather Modifications, University of Wyoming, by Merlin C. Williams. (January, 1965. Prior discussion: None. Discussion closed.)	
by Richard A. Schleusener	298
by Paul A. Rechard	299
by Asit K. Biswas	300
Erosion and Deposition of Cohesive Soils, by E. Partheniades. (January, 1965. Prior discussion: None. Discussion closed.)	
by A. G. Altschaeffl	301
by Bent A. Christensen	301
Hydraulic Performance Comparison of Centrifugal Pumps, by Michael J. Suess. (March, 1965. Prior discussion: July, 1965. Discussion closed.)	
by Henry L. Thackwell	309
Men, Models, Methods, and Machines in Hydrologic Analysis, by Willard M. Snyder and John B. Stall. (March, 1965. Prior discussion: None. Discussion closed.)	
by Myron B. Fiering	311
by Donald R. Jackson	313

	Page
Canal Discharge Measurements with Radioisotopes, by Jack C. Schuster. (March, 1965. Prior discussion: None. Discussion closed.) by Hugo B. Fischer	317
Sediment Transportation Mechanics: Nature of Sediment Problems, by the Task Committee on Preparation of Sedimentation Manual, Committee on Sedimentation. (March, 1965. Prior discussion: None. Discussion closed.) by Joe M. Lara	319
Floor Measurements at Colombia River Power Plants, by Nicholas A. Dodge. (March, 1965. Prior discussion: None. Discussion closed.) by J. Whitaker	321
Wind Driven Water Currents, by W. Douglas Baines and Douglas J. Knapp. (March, 1965. Prior discussion: None. Discussion closed.) by Erich J. Plate	322
Theoretical Aspects of Seepage from Open Channels, by Herman Bouwer. (May, 1965. Prior discussion: None. Discussion closes October 1, 1965.) by Srisakdi Charmonman	324
Computer Analysis of Overland Flow, by James R. Morgali and Ray K. Linsley. (May, 1965. Prior discussion: None. Discussion closes October 1, 1965.) by James M. Wiggert	326
by Robert M. Ragan	329
by Michael K. Householder	331

INFORMATION RETRIEVAL

The key words, abstract, and reference "cards" for each article in this Journal represent part of the ASCE participation in the EJC information retrieval plan. The retrieval data are placed herein so that each can be cut out, placed on a 3 x 5 card and given an accession number for the user's file. The accession number is then entered on key word cards so that the user can subsequently match key words to choose the articles he wishes. Details of this program were given in an August 1962 article in CIVIL ENGINEERING, reprints of which are available on request to ASCE headquarters.