

TABLE OF CONTENTS

Minutes of the Seventy-eighth Annual Meeting of the South Dakota Academy of Science.	5
Presidential Address: One Breath Per Year. Nels Granholm.	17
Presidential Address: Freshwater Bivalves. Keith Perkins.	21
Senior Research Papers Presented at the Seventy-eighth Annual Meeting of the South Dakota Academy of Science:	
The Relationship between Classical and Quantum Mechanics. George H. Duffey.	27
Largemouth Bass Biomass, Density and Size Structure in Small South Dakota Impoundments. Tracy D. Hill and David W. Willis.	31
Standard and Relative Weight for the Pallid Sturgeon, <i>Scaphirhynchus albus</i> . K. D. Keenlyne and P. D. Evenson.	41
Food Habits of White Crappies in Lake Goldsmith, South Dakota. Christopher S. Guy and David W. Willis.	51
Wetland Water Quality Characteristics in the Rainwater Basin Area of Nebraska. Christine C. Gordon, Lester D. Flake, Kenneth F. Higgins, and W. Lee-Tucker.	61
Waterfowl Use of and Production on Nesting Structures in South Dakota. James D. Ray and Kenneth F. Higgins.	73
Response by Upland Nesting Ducks to Three Rejuvenation Treatments Applied to Two Types of Seeded Nesting Cover in South Dakota. Donald P. Kemner and Kenneth F. Higgins.	87
Riparian Habitats Relative to Wood Duck Management in South Dakota. Paul F. Coughlin and Kenneth F. Higgins.	111
The Fertilizing Effects of a Selective Herbicide and Its Components on a Northern Mixed Prairie. H. A. Geise and E. M. White.	133
A Comparison of Divisional Growing Season Drought between Western and Southeastern South Dakota. Matthew J. Bunkers, James R. Miller, Jr., Carolyn Hull Sieg, and Arthur T. DeGaetano.	141
Stream Runoff from Black Hills Watersheds. Perry H. Rahn and Arden D. Davis.	161
An Analytical Model To Predict the Geometry of the Cone of Depression Caused by Pumping an Anisotropic Aquifer. D. R. Dayananda.	177
High-Resolution Seismic Surveys for Ground Water Investigations, Spink and Beadle Counties, South Dakota. M. Selvakumar and W. M. Roggenthen.	183
Study of Electrification in Thunderstorms Using In-Situ Aircraft Measurements. Rahul Ramachandran and Andrew Detwiler.	189
A Climatological Record from Western Rapid City. James R. Miller and L. Ronald Johnson.	201
The Development of the James River Trench and Resulting Soils in Yankton County. Edgar Ensz.	215
The First Occurrence of Vertebrates, Represented by the Paleozoic Sharks <i>Petrodus</i> , <i>Listracanthus</i> , <i>Cladodus</i> , and <i>Cranodus</i> (?) from the Pennsylvanian-Permian Minnelusa Formation near Piedmont, South Dakota. Randy A. Elder.	221
First Definitive Record of the Mosasaur <i>Tylosaurus proriger</i> from the Niobrara Formation (Upper Cretaceous), South Dakota. Bruce A. Schumacher and James E. Martin.	235
Late Cretaceous Selachians and Associated Marine Vertebrates from the Dakota Rose Granite Quarry, Grant County, South Dakota. J. D. Stewart and James E. Martin.	241
Occurrence of Eocene Sedimentary Rocks on Prune Island, Grenadines, Lesser Antilles. Gary D. Johnson and Valentine J. Ansfield.	249
Synthesis of TiC-WC Solid Solutions by Combustion Reactions. K. K. Udawadia and J. A. Puszynski.	255
Combustion Synthesis and Densification in the Field of Centrifugal Forces. S. Chandran and J. A. Puszynski.	263
Extracting a Signal in the Presence of Noise with a Recurrent Neural Network. Edward M. Corwin, Antonette M. Logar, and William J. B. Oldham.	271
Abstracts of Senior Research Papers.	279
Senior Research Papers Published by Title Only.	359
Abstracts of Award-Winning Junior Papers.	361