

**GEOLOGICAL SURVEY OF NEW  
JERSEY. ANNUAL REPORT OF  
THE STATE GEOLOGIST, FOR  
THE YEAR 1889**

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Geological Survey of New Jersey. Annual Report of the State Geologist, for the Year 1889 by Various

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**VARIOUS**

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GEOLOGICAL SURVEY OF NEW JERSEY.

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ANNUAL REPORT

OF THE

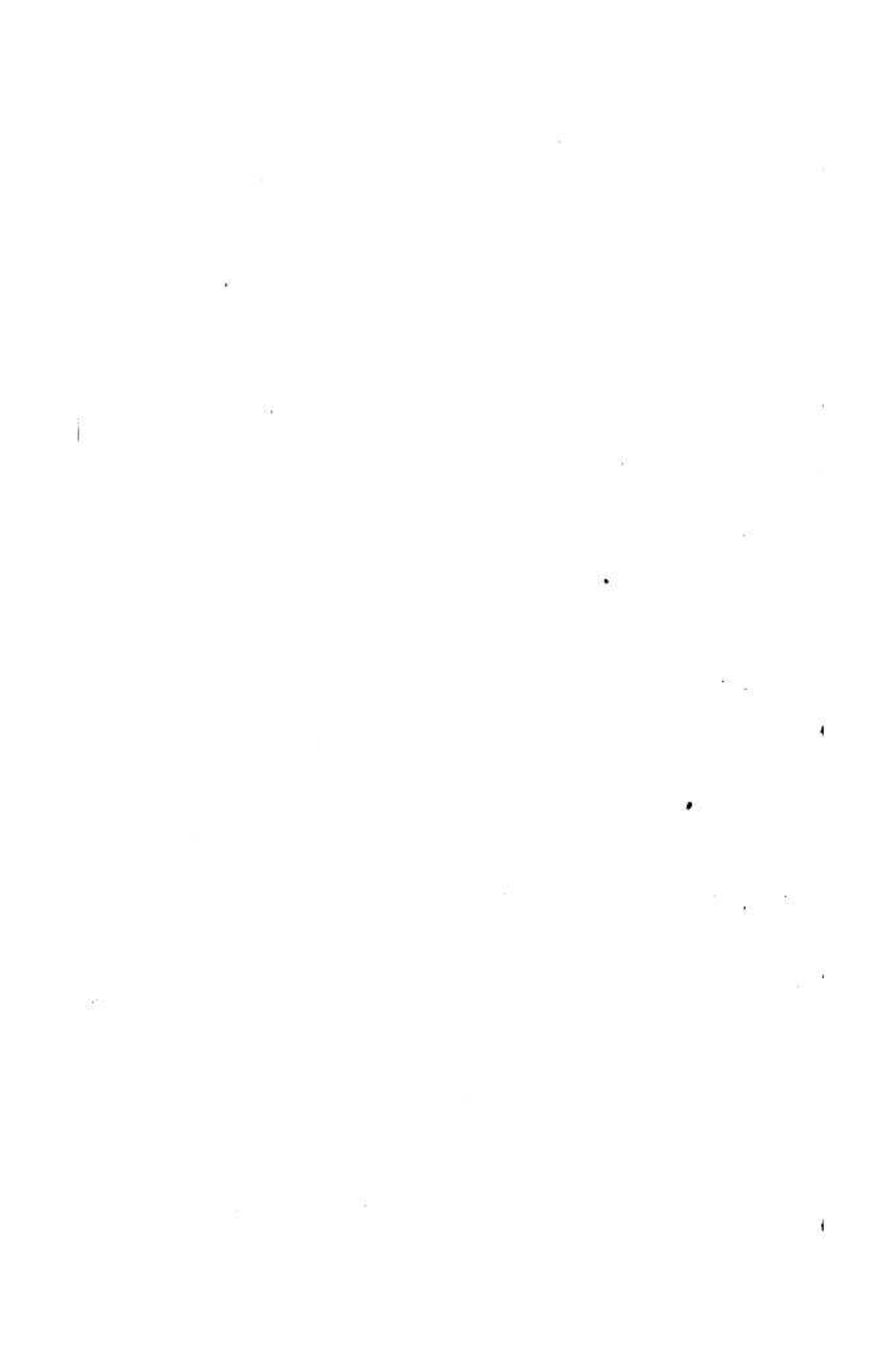
STATE GEOLOGIST,

FOR THE YEAR

1889.

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CAMDEN, N. J.:  
F. F. PATTERSON, PRINTER.  
1889.



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## OFFICERS.

GEORGE H. COOK, State Geologist.

(Appointed March 30th, 1864. Died September 22d, 1899.)

IRVING S. UPSON, Assistant in Charge of Office.....New Brunswick.

FRANK L. NASON, Assistant Geologist.....New Brunswick.





NEW BRUNSWICK, December 31st, 1889.

*To His Excellency Robert S. Green, Governor of the State of New Jersey, and ex-officio President of the Board of Managers of the State Geological Survey:*

SIR—I have the honor herewith to submit the Annual Report of the State Geologist, for the year 1889.

With high respect,

Your obedient servant,

WM. M. FORCE,

Secretary.



# REPORT.

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In presenting this Annual Report the Board of Managers are pained to record the sudden death, on September 22d, 1889, of the State Geologist, Dr. George H. Cook, who for more than a quarter of a century filled the position with rare acceptability and efficiency. Since this date, by resolution of the Board of Managers, Mr. Irving S. Upson acts as Assistant in charge of office, Mr. Frank L. Nason continues as Assistant Geologist, and Prof. John C. Smock, who was formerly, for many years, associated with Dr. Cook, acts as Consulting Geologist.

The outline here given of the work done during the year, as well as that proposed for its continuance, had all been carefully planned by Dr. Cook.

The Geological Survey of the State has been continued through the year, and its work has been, as heretofore, to develop and make public the natural products and resources of New Jersey.

In the Annual Report for 1887, it was stated that the Topographic and Magnetic Surveys of the State were completed, and that the reports upon these would be prepared and printed as rapidly as possible. This work is done, and the first volume of the final report of the Geological Survey of New Jersey has been printed. It is an octavo volume of xi. and 439 pages, and contains a report on the Geodetic Survey, by Prof. Edward A. Bowser, LL.D.; on the Topographic and Magnetic Surveys, by C. C. Vermeule, C.E.; and on the Climate of the State, by Prof. John C. Smock, Ph.D. It also contains two maps of the State on a scale of five miles to an inch; one showing its civil divisions, and the other its elevations, mountains, ridges, valleys and plains, together with its rivers and its drainage areas. This volume was distributed during the year just closed, and but few copies of the edition are left.

The second volume is ready for publication. It will be in two parts, the first containing a full Catalogue of the Minerals found in New