

**Geological and Geophysical Collections
of the
New York State Geological Survey**
Final Technical Report
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Abstract:

Throughout the years, the New York State Geological Survey (NYSGS) has collected many unpublished original works in its open file library. This compilation includes one-of-a-kind New York State reports, aerial photographs, and both surficial and bedrock maps, most of which are hand colored. These works were created by academic and professional geologists working on specific tasks in New York State. Through the National Geological and Geophysical Data Preservation Program (NGGDPP), the entire collection of maps has been scanned, inventoried, and metadata has been created for each item. These unpublished New York State geological maps will be made digitally available to the public through the New York State Museum (NYSM) website.

Objective:

The objective of this grant was to inventory and scan each of the approximately 1,200 maps in the open file collection, specifically originals that are in danger of deteriorating. This ensures proper preservation of each item by creating digital files of the originals.

Introduction:

The New York State Geological Survey (NYSGS) is an institution associated with the New York State Museum (NYSM) which operates within the New York State Education Department. The mission of the survey is to conduct geologic research, evaluate mineral resources and geologic hazards of the State of New York, and make the data and advice derived from that research available to State agencies, the educational community, and the public for the health, safety, and economic welfare of the citizens of the State. As such, the NYSGS has produced and collected a large number of original documents including reports, posters, photos, charts, tables, and most notably maps. These works come from a wide variety of sources such as university professors, graduate students, and geologists in both the public and private sectors. This collection of research documents has been accumulating in the museum's open file library for over 75 years, however its existence is not widely known therefore remains relatively underutilized.

Many of the over 1,100 maps in the open file collection were drawn and colored by hand before the advent of geographic information systems (GIS) or illustration software. Therefore, there are no duplicate copies or electronic back-ups of the information they contain. To preserve this one-of-a-kind collection, the National Geological and

Geophysical Data Preservation Program (NGGDPP) has granted the NYSGS the funding needed to scan and inventory each map so that an electronic copy can be preserved. In addition to the archival benefit of scanning these maps, they will also be made available to the public via download from both the NYSM website.

Procedure:

For the last 75 years, maps have been added to the open file collection based on two main criteria; accuracy and clarity. Each map had to be correct and its markings had to be legible. As the first step in this project, each map was checked to verify that these requirements were met. Next, each item was checked to be sure it was not previously published. Original works were identified based on their content and illustrations, many of which were clearly done by hand. Each map was then added to the inventory using a template from the open file database. Each entry included title, author(s), date created, scale, and location including quadrangle. The maps were then brought to an imaging lab where they were individually scanned using a Hewlett Packard HP design jet 4200 large format scanner. Each scanned image was saved as a color TIFF file with a resolution of 300dpi. Most of the maps in this collection are printed on paper; however several exist on other materials such as mylar and vellum. A trial-and-error technique was used to determine the best scanner settings for each new material. Maps that were deteriorating were handled with special care during transit and scanning, so as not to tear or cause further degradation. Each map was then filed properly according to the inventory system.

Metadata for each map was created using the inventory data and correlated with the image files using Microsoft Access. The data was then exported into XML format for use by the NYSM. In addition, metadata that is National Digital Catalog (NDC) compliant is being provided to the USGS for use on their website.

Results/Conclusion:

As a result of this project, the NYSGS was able to preserve and document 1,181 maps that were deteriorating without any physical preservation available. The collection has been scanned and is now maintained digitally to ensure proper archival status. This method of storage not only preserves the collection by creating a digital back-up of each map, it also enables the public to easily access these documents by making them available for download from the NYSM website. Furthermore, the full inventory and NDC metadata will be available through the USGS.