

# **Horace G. Richards papers**

**2010.062**

**Finding aid prepared by Laurie Rizzo.**

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Last updated on December 11, 2012.

Academy of Natural Sciences, Philadelphia

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## Summary Information

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**Repository** Academy of Natural Sciences, Philadelphia

**Creator** Richards, Horace Gardiner, 1906-1984

**Title** Horace G. Richards papers

**Call number** 2010.062

**Date [inclusive]** 1928-1984

**Extent** 41 linear feet (77 containers)

**Language** English

**Language of Materials note** A majority of the collection is in English. There are several letters of correspondence in Russian and French.

**Abstract** Horace G. Richards (1906-1984) was a geologist at the Academy of Natural Sciences, Philadelphia and an authority on the geologic formations of the Atlantic coastal plain. His research specialty focused on geology and paleontology of the Quaternary Period (approximately the past 1.8 million years), but his research interests also included Cenozoic mollusca, and marine Pleistocene geology and paleontology of the Atlantic coastal plain. Additionally, he studied climate change and coastal shorelines, which required extensive fieldwork, taking him all over the world. Richards was also an adjunct professor at two universities and frequently guest lectured at various institutions. The Horace G. Richards papers document various aspects of his professional career, from his graduate education at the University of Pennsylvania to his retirement from the multiple positions he held. Materials in this collection include: general business correspondence; photographs and slides from his field work and expeditions; photographic catalog notebooks; scrapbooks of

newspaper clippings and announcements; travel expenses and reports; and the records of the Atlantic Coastal Plains Project, the International Union of Quaternary Research, the *Annotated Bibliography of Quaternary Shorelines* and various professional societies. Also in the collection are certificates, academic materials, student papers, radio scripts, audio reels, and manuscripts of Richards' writings and presentations. The majority of the collection is made up of Richards' correspondence and extensive slides from his travels all over the world. This collection is of special interest for those interested in the history of science, especially the Quaternary Period, geology, paleontology, mollusca, invertebrate fossils, climate change and changing shore lines.

**Cite as:**

[Description and date of item], [Box/folder number], [Collection number], Horace G. Richards papers, 1928-1978, Academy of Natural Sciences of Philadelphia.

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## **Biography/History**

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Horace G. Richards (1906-1984) was a geologist at the Academy of Natural Sciences, Philadelphia and an authority on the geologic formations of the Atlantic coastal plain. His research specialty focused on geology and paleontology of the Quaternary Period (approximately the past 1.8 million years), but his research interests also included marine Pleistocene geology and paleontology of the Atlantic coastal plain.

Horace Gardiner Richards was born on March 21, 1906 in Philadelphia to Horace Clark Richards and Annie Gardiner Richards. His interest in science was piqued early as his "family had a summer home at Cape May, New Jersey, where abundant fossil beds," (Fairbridge, page 1) existed. He obtained his education at William Penn Charter School and the University of Pennsylvania, where he earned a Bachelor of Liberal Arts in 1927, a Master of Science in 1929, and a Doctorate of Philosophy in zoology and geology in 1932.

From 1929 to 1931, Richards worked with the United States Bureau of Fisheries, surveying marine life of the New Jersey coast. From 1931 to 1932, he served as the Associate Curator of Mollusks at the U.S. National Museum in Washington, DC. He then went on to serve as research associate at the New Jersey

State Museum in Trenton, New Jersey from 1934 to 1940. He served as a geologist for the Groundwater Division of the United States Geological Survey, located in Trenton, New Jersey from 1949 to 1971.

In 1937, he began working at the Academy of Natural Sciences. He served the Academy in a number of different capacities for the rest of his life. He worked as a Research Associate from 1937 to 1942, as Associate Curator of Geology and Paleontology from 1942 to 1960, as Chairman of the Department of Geology and Paleontology from 1960 to 1972, and Curator Emeritus from 1972 until his death. According to Richards, "during [his] tenure at the Academy, [he did] field work on Quaternary deposits in most parts of the world (e.g. United States, Arctic, Canada, Caribbean Islands, Mexico, Central America, South America, Europe, Middle East, Africa, Union of Soviet Socialist Republics, Japan, Taiwan, Fiji Islands, Easter Island, New Zealand) collecting invertebrate fossils from a great many places and bringing them back to the Academy," (Richards, page 1).

While working with the Academy of Natural Sciences, he organized, with its cooperation, a survey of the Coastal Plain of North Carolina and served as Associate in Paleontology at the North Carolina State Museum in Raleigh, North Carolina from 1941 to 1943. Several years later, Richards developed a similar project at the Academy. The Atlantic Coastal Plain Project began in 1947 and collected and studied fossils and well samples from the coastal plain between Long Island and Florida. The project involved intensive field work and study of deep water wells and oil tests, which resulted in the gathering of large collections of Cretaceous, Tertiary and Quaternary invertebrate fossils. The Atlantic Coastal Plain Project was supported by various oil companies, state geological surveys and other grant funding agencies, such as the Geological Society of America, the American Philosophical Society, the Office of Naval Research and the National Science Foundation. In exchange for a financial contribution towards the project, oil companies received a quarterly report of the findings. These reports provided the companies with valuable information that would have been more costly to obtain themselves. Richards' Atlantic Coastal Plains Project was so successful that in 1960, the Atlantic Coastal Plain Geological Association was formed, which held Field Conferences once year. Richards retired as director of the Atlantic Coastal Plains Project in 1976, and for a short time, the work was continued by Earle A. Shapiro.

In addition to his work at the Academy, Richards lectured, part-time, on geology at the University of Pennsylvania from 1949 to 1971, following a family tradition as both his father and grandfather had taught there as well. In 1960, he was appointed Senior Research Associate at Lamont-Doherty Geological Observatory of Columbia University in Palisades, New York. He also guest lectured and gave presentations at various other institutions around the world. He earned the reputation of being highly devoted to his students, many of who worked with him and contributed to his geological field work. He worked with his sister, Marie A. Richards to raise money for a "Student Research Fund" to support his student assistants.

Richards was active in several professional organizations. He was elected fellow of the Geological Society of America in 1942 and served as a member of the Paleontological Society, the American Malacological Union, the Association Senegalaise pour Etude Quaternaire, and the Cape May Geographic Society. In 1953, he began working closely with the International Union for Quaternary Research (INQUA). INQUA was founded in 1928 as a society for scientists who study environmental and climate changes throughout the Quaternary period. He also served from 1961 to 1969, as president of INQUA and oversaw the subcommissions, the Shorelines Commission, and Recent Sea Level Changes.

Throughout his career, Richards published almost 300 articles and seven books. He devoted approximately fifty years of his life to the compilation and editing of the *Annotated Bibliography of Quaternary Shorelines*, which appeared in five volumes and supplements. The compiling of the *Annotated Bibliography of Quaternary Shorelines*, and the succeeding supplements, was supported by several grants issued by the National Science Foundation.

In 1945, Richards received the "President's Reward" from the American Association of Petroleum Geologists for his "work on the Cenozoic of the Atlantic Coastal Plain," (Fairbridge, page 1). He also received the "Distinguished Alumnus Award" from the William Penn Charter School in 1971 and was named honorary research associate in paleontology at the Delaware Museum of Natural History in 1974.

Horace G. Richards died on November 19, 1984 in Philadelphia. He is remembered as "a leading East Coast specialist in Cenozoic mollusca," (Fairbridge, page 1).

### **Bibliography:**

Fairbridge, Rhodes W. "Memorial to Horace Gardiner Richards (1906-1984)." The Geological Society of America, 1984.

Richards, Horace G. Resume (located in Biographical File of the Archives of the Academy of Natural Sciences of Philadelphia), circa 1974.

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## **Scope and Contents**

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The Horace G. Richards papers document various aspects of his professional career, from his graduate education at the University of Pennsylvania to his retirement from the multiple positions he held. The bulk of the collection is made up of his correspondence and his 35-mm slides from expeditions and field work around the world. Of particular interest are the raw data materials produced by the "Atlantic Coastal Plain Project" related to deep well and oil well samples; the documentation of his work on the *Annotated Bibliography of Quaternary Shorelines*; his scrapbooks, which chronicle Richards' career, especially his activities at the Academy of Natural Sciences; and the extensive slides and photographs within the collection which could provide evidence of past shorelines and geologic formations in many parts of the world. This collection would be of special interest for those interested in the history of science and scientific research, especially the Quaternary Period, geology, paleontology, mollusca, invertebrate fossils, climate change and changing shore lines. Series in this collection include, "Correspondence," "Atlantic Coastal Plains Project (ACPP)," "International Union of Quaternary Research," " *Annotated Bibliography of Quaternary Shorelines*," "Professional Societies," "Travel," "Presentations," "Radio scripts," "Writings," "Academics," "Certificates," "Student papers," "Scrapbooks and newspaper clippings," "Notebooks," "Audio," and "Images." The series are arranged in descending order of apparent comprehensiveness of the textual materials, keeping related series together, followed by the series of various media.

Please refer to the series' scope and content notes and folder lists for additional information on the contents of the collection.

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## Administrative Information

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Academy of Natural Sciences, Philadelphia  
Finding aid prepared by Laurie Rizzo.

### Sponsor

The processing of this collection was made possible through generous funding from The Andrew W. Mellon Foundation, administered through the Council on Library and Information Resources' "Cataloging Hidden Special Collections and Archives" Project.

### Access Restrictions

This collection is open for research use.

### Use Restrictions

Copyright restrictions may apply. Please contact the Archives with requests for copying and for authorization to publish, quote or reproduce the material.

### Immediate Source of Acquisition note

Much of the correspondence and materials related to the Geology and Paleontology Department at the Academy of Natural Sciences was transferred to the archives by Gay Vostreys in 1980. Iconographic materials from the Malacology Department, including the travel materials, the Atlantic Coastal Plains Project and the International Union of Quaternary Research were transferred by Elana Benamy. Writings, slides, certificates, scrapbooks, photo albums, and lantern slides were donated by Marie A. Richards in 1985. Additional Quarterly Reports from the Atlantic Coastal Plains Project were deposited by John Sime in 2010.

### Processing Information note

The processing of this collection was made possible through generous funding from The Andrew W. Mellon Foundation, administered through the Council on Library and Information Resources' "Cataloging Hidden Special Collections and Archives" Project.

This collection was *minimally processed* in 2009-2011, as part of an experimental project conducted under the auspices of the Philadelphia Area Consortium of Special Collections Libraries to help eliminate processing backlog in Philadelphia repositories. A minimally processed collection is one processed at a

less intensive rate than traditionally thought necessary to make a collection ready for use by researchers. When citing sources from this collection, researchers are advised to defer to folder titles provided in the finding aid rather than those provided on the physical folder.

Employing processing strategies outlined in Mark Greene's and Dennis Meissner's 2005 article, *More Product, Less Process: Revamping Traditional Processing Approaches to Deal With Late 20th-Century Collections*, the project team tested the limits of minimal processing on collections of all types and ages, in 23 Philadelphia area repositories. A primary goal of the project, the team processed at an average rate of 2-3 hours per linear foot of records, a fraction of the time ordinarily reserved for the arrangement and description of collections. Among other time saving strategies, the project team did not extensively review the content of the collections, replace acidic folders or complete any preservation work.

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## Related Materials

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### Related Archival Materials note

Academy of Natural Sciences of Philadelphia: Academy of Natural Sciences of Philadelphia Geology and Paleontology Department records; Academy of Natural Sciences of Philadelphia Malacology Department records; H.G. Richards papers (Collection 697).

### Separated Materials note

The following published works have been removed from the collection and are cataloged in the Academy of Natural Sciences of Philadelphia Ewell Sale Stewart Library.

Academy of Natural Sciences of Philadelphia. 1937. The International Symposium on Early Man. March 17, 18, 19 and 20, 1937. Academy of Natural Sciences. Philadelphia, PA.

Academy of Natural Sciences of Philadelphia. 1972. *Frontiers*. Vol. 36, No. 5. Summer 1972. The Academy of Natural Sciences, Philadelphia, PA.

Academy of Natural Sciences of Philadelphia. 1978. *Frontiers*. Vol. 42, No. 2. Winter 1978. The Academy of Natural Sciences, Philadelphia, PA.

Academy of Natural Sciences of the Armenian SSR. Institute of Geological Sciences. 1977. *Geology of the Quaternary Period (Pleistocene)*. For X Congress of INQUA, Birmingham, England.

Fairbridge, Rhodes W. (ed.). 1975. *The Encyclopedia of World Regional Geology. Part I. Western Hemisphere (Including Antarctica and Australia)*. Dowden, Hutchinson & Ross, Inc., Stroudsburg, PA.

*Journal of Coastal Research: An International Forum for the Littoral Sciences*. 1986. Special Issue No. 2. (pp. 1-88). Coastal Education and Research Foundation. Charlottesville, VA. Autumn 1986.



- MacCurdy, George Grant (ed.). 1937. *Early Man: As depicted by leading authorities at the International Symposium, The Academy of Natural Sciences, Philadelphia, March 1937.* J. B. Lippincott Company London. Philadelphia and New York.
- Oaks, Robert Q., Jr. and Jules R. DuBar. 1974. *Post-Miocene Stratigraphy Central and Southern Atlantic Coastal Plain.* Utah State University Press. Logan.
- Richards, Horace G. 1938. *Animals of the Seashore.* Bruce Humphries, Inc. Publishers. Boston.
- Richards, Horace G. and Anne Harbison. 1942. *Miocene Invertebrate Fauna of New Jersey. Vol. XCIV.* (pp. 167-250, plates 7-22). *Proceedings of The Academy of Natural Sciences of Philadelphia.*
- Richards, Horace G. 1947. *One Hundred South Jersey Novels. A bibliography of fiction with a Southern New Jersey Setting.* New Jersey Folklore Society, Trenton.
- Richards, Horace G. 1953. *Record of the Rocks: The Geological Story of Eastern North America.* The Ronald Press Company. New York.
- Richards, Horace G. 1956. *Geology of the Delaware Valley.* Mineralogical Society of Pennsylvania. Philadelphia.
- Richards, Horace G. 1959. *The Story of Earth Science.* J. B. Lippincott Company. Philadelphia and New York.
- Richards, Horace G. 1958. *The Cretaceous Fossils of New Jersey. Paleontology Series. Part I. Porifera, Coelenterata, Annelida, Echinoidea, Brachiopoda and Pelecypoda State of New Jersey.* Bureau of Geology and Topography. Trenton.
- Richards, Horace G. 1962. *The Cretaceous Fossils of New Jersey. Paleontology Series. Bulletin No. 61, part II. Gastropoda, Scaphopoda, Nautiloidea, Ammonoidea, Belemnitidae, Crustacea, Vertebrata and Miscellaneous Fossils.* Bureau of Geology and Topography.
- Richards, Horace G. 1962. *Studies on the Marine Pleistocene: Part I. The Marine Pleistocene of the Americas and Europe, Part II. The Marine Pleistocene Mollusks of Eastern North America.* *Transactions of the American Philosophical Society. New Series, Vol. 52, Part 3. July, 1962.* The American Philosophical Society, Philadelphia, PA.
- Richards, Horace G. and Rhodes W. Fairbridge. 1965. *Annotated Bibliography of Quaternary Shorelines (1945-1964).* Prepared for the VII International Congress of International Union for Quaternary Research (INQUA). Special Publication 6. Academy of Natural Sciences. Philadelphia, PA. Copy 1. (hard cover)
- Richards, Horace G. and Rhodes W. Fairbridge. 1965. *Annotated Bibliography of Quaternary Shorelines (1945-1964).* Prepared for the VII International Congress of International Union for Quaternary Research (INQUA). Special Publication 6. Academy of Natural Sciences. Philadelphia, PA. Copy 2. (paperback)
- Richards, Horace G. 1968. *Catalogue of Invertebrate Fossil Types at the Academy of Natural Sciences of Philadelphia.* Special Publication 8. Academy of Natural Sciences. Philadelphia, PA.
- Richards, Horace G. and Rhodes W. Fairbridge. 1970. *Annotated Bibliography of Quaternary Shorelines. Supplement (1965-1969).* Prepared for the VIII International Congress of International Union for

Quaternary Research (INQUA). Special Publication 10. Academy of Natural Sciences. Philadelphia, PA. Copy 1. (hard cover)

Richards, Horace G. and Rhodes W. Fairbridge. 1970. Annotated Bibliography of Quaternary Shorelines. Supplement (1965-1969). Prepared for the VIII International Congress of International Union for Quaternary Research (INQUA). Special Publication 10. Academy of Natural Sciences. Philadelphia, PA. Copy 2. (paperback)

Richards, Horace G. 1974. Annotated Bibliography of Quaternary Shorelines. Second Supplement (1970-1973). Prepared for the IX Congress of International Union for Quaternary Research (INQUA), Christ Church, New Zealand, December 2-10, 1973. Fulton Press Incorporated, Lancaster, PA.

Richards, Horace G. and Earl A. Shapiro. 1979. Annotated Bibliography of Quaternary Shorelines. Third Supplement (1974-1977). Prepared for the X Congress of International Union for Quaternary Research (INQUA), Birmingham, England, August 1977. Geo Abstracts, Bibliography No. 5. Geo Abstracts Limited. Norwich, England.

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## Controlled Access Headings

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### Corporate Name(s)

- Academy of Natural Sciences of Philadelphia.
- American Association of Petroleum Geologists.
- American Geological Institute.
- Atlantic Coastal Plain Geological Association.
- Geological Society of America.
- Geological Society of New Jersey.
- International Union for Quaternary Research.
- Philadelphia Geological Society.
- Shorelines Commission of INQUA.
- Sun Oil Company.
- United States. Bureau of Fisheries.
- United States. Office of Naval Research. Geography Branch.
- University of Pennsylvania.

### Form/Genre(s)

- Articles
- Clippings

- Correspondence
- Financial records
- Interviews
- Lectures
- Photograph albums
- Photographs
- Radio scripts
- Reports
- Research notes
- Scrapbooks
- Slides (photographs)

### **Geographic Name(s)**

- Cape May (N.J.)

### **Personal Name(s)**

- Morton, Samuel George, 1799-1851
- Richards, Horace Gardiner, 1906-1984

### **Subject(s)**

- Atlantic Coastal Plain Project
- Coastal plains
- Crustaceans
- Dredging
- Geology
- Mollusks
- Oil wells
- Paleontology

## **Other Finding Aids note**

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A preliminary inventory of the Horace G. Richards collection was compiled by Stephanie A. Morris, January 1992. A copy resides in the Box 1, in front of folder 1.

## Collection Inventory

### Correspondence, 1928-1983.

#### Scope and Contents note

The "Correspondence" series contains Richards' incoming and outgoing correspondence with colleagues, scientists and students. The series is arranged into seven subseries, each representing a span of time: "1928-1935," "1936-1949," "1950-1959," "1960-1964," "1965-1969," "1970-1976" and "1977-1983". Within each subseries, incoming and outgoing correspondence is intermingled and arranged alphabetically by personal or corporate name, with the exception of the "1928-1935" subseries, which is arranged chronologically due to its small size. Researchers should note that in all subseries, whether arranged alphabetically or chronologically, correspondence is arranged only to the folder level; papers within folders are not arranged. Because this collection was minimally processed, researchers should note that while correspondence has been arranged generally alphabetically, the contents of specific files are not in perfect alphabetical order. Incidences of ongoing correspondence with particular individuals or companies, unfortunately, may be separated from each other. Researchers are therefore advised to review the entire contents of a file or alphabetical letter group to ensure that they have found all pertinent correspondence. In addition, other groups of Richards' correspondence can be found in the following other series: "Atlantic Coastal Plains Project (ACPP)," "International Union of Quaternary Research (INQUA)," "*Annotated Bibliography of Quaternary Shorelines*," "Professional Societies," "Travel," "Writings," and "Academics." Other series containing correspondence are subject specific and were previously separated from the "Correspondence" series.

#### 1928-1935.

	Box	Folder
General correspondence, 1928-1935.	1	1
General correspondence, 1929, 1933-1935.	1	2
Anteys, Ernst, 1929-1935.	1	3

1936-1949

**1936-1949.**

	Box	Folder
"A" general, 1937-1945.	1	4
"A" general, 1945-1948.	1	5
Allison, Edwin O., Annette Island, Alaska, 1947.	1	6
American Philosophical Society, 1948-1949.	1	7
Army Engineers, 1943.	1	8
"B" general, 1940-1949.	1	9
"B" general, 1947-1948.	1	10
"Ba"-"Bl", 1936-1949.	1	11
"Bo"-"Bu", 1938-1949.	1	12
"C" general, 1937-1944.	2	1
"C" general, 1943-1946.	2	2
"C" general, 1945-1946.	2	3
"C" general, 1945-1948.	2	4
"C" general, 1949.	2	5
"Co"-"Cu", 1940-1941.	2	6
"D" general, 1936-1949.	2	7

1936-1949

"D" general, 1947-1948.	2	8
"D" general, 1949.	2	9
"E" general, 1939-1944.	3	1
"E" general, 1945-1946.	3	2
"E" general, 1947-1949.	3	3
"F" general, 1937-1944.	3	4
"F" general, 1945-1946.	3	5
"F" general, 1947-1948.	3	6
"F" general, 1949.	3	7
"G" general, 1936-1938.	3	8
"G" general, 1936-1939.	3	9
"G" general, 1940-1944.	3	10
"G" general, 1945-1946.	3	11
"G" general, 1947-1948.	3	12
"G" general, 1949.	3	13
Glass, Herbert, 1948-1949.	3	14
"H" general, 1936-1939.	4	1
"H" general, 1940-1942.	4	2

1936-1949

"H" general, 1945-1946.	4	3
"H" general, 1947-1948.	4	4
"H" general, 1949.	4	5
"Ha", 1936-1943.	4	6
"He", 1940-1944.	4	7
"Hi", 1936-1944.	4	8
"I" general, 1936-1949.	4	9
"J" general, 1937-1943.	4	10
"J" general, 1945-1946.	4	11
"J" general, 1948-1949.	4	12
Johnson, Meredith, 1940-1948.	4	13
"K" general, 1937-1946.	4	14
"K" general, 1947-1948.	4	15
"K" general, 1949.	4	16
"L" general, 1936-1938.	5	1
"L" general, 1942-1944.	5	2
"L" general, 1945-1948.	5	3
"L" general, 1949.	5	4



1936-1949

Layne-Atlantic Company, 1942-1943.	5	5
"M" general, 1936-1938.	5	6
"M" general, 1937-1942.	5	7
"M" general, 1943-1946.	5	8
"M" general, 1947-1948.	5	9
"M" general, 1949.	5	10
"Mc", 1936-1949.	5	11
"Mc", 1947-1948.	5	12
"Mer"- "My", 1937-1943.	5	13
"Mn"- "Mz", 1942-1946.	5	14
"N" general, 1936-1938.	6	1
"N" general, 1937-1945.	6	2
"N" general, 1945-1948.	6	3
"N" general, 1949.	6	4
Navy, 1943.	6	5
"O" general, 1936-1938.	6	6
"O" general, 1937-1944.	6	7
"O" general, 1945-1948.	6	8

1936-1949

"P"- "Q" general, 1936-1938.	6	9
"P"- "Q" general, 1938-1944.	6	10
"P"- "Q" general, 1943-1945.	6	11
"P"- "Q" general, 1945-1946.	6	12
"P"- "Q" general, 1947-1948.	6	13
"P"- "Q" general, 1949.	6	14
Paleobotany, 1945-1947.	6	15
"R" general, 1936-1938.	6	16
"R" general, 1939-1944.	6	17
"R" general, 1943-1945.	6	18
"S" general, 1945-1946.	7	
"R" general, 1947-1948.	6	19
"R" general, 1949.	6	20
"S" general, 1936-1941.	7	1
"S" general, 1947-1948.	7	3
"S" general, 1949.	7	4
"Sa"- "Se", 1940-1944.	7	5
"Sa"- "Sm", 1944-1947.	7	6

1936-1949

"Sh"-"Sy", 1937-1940.	7	7
"Sh"-"Sy", 1941-1944.	7	8
Shell Oil Company, 1944-1945.	7	9
Shell Oil Company of Georgia, 1944.	7	10
Slides, 1939-1940.	7	11
"Sn"-"Sz", 1944-1945.	7	12
Standard Oil Company of New Jersey, 1946-1947.	7	13
Sun Oil Company, 1942-1944.	7	14
Sun Oil Company, 1945-1947.	7	15
Sun Oil Company, 1949.	7	16
"T" general, 1936-1949.	8	1
"T" general, 1937-1944.	8	2
"T" general, 1947-1948.	8	3
"T" general, 1949.	8	4
Texas Company, The, 1944-1946.	8	5
Thompson, David G., United States Department of Interior, Geological Survey, 1934-1935.	8	6
"U"-"V" general, 1938-1944.	8	7

## 1950-1959

"U"-"V" general, 1947-1948.	8	8
"U"-"V" general, 1949.	8	9
"W" general, 1936-1940.	8	10
"W" general, 1941-1946.	8	11
"W" general, 1947-1948.	8	12
"W" general, 1949.	8	13
"X"-"Y"-"Z" general, 1937-1945.	8	14
"X"-"Y"-"Z" general, 1945-1946.	8	15
"X"-"Y"-"Z" general, 1947-1948.	8	16
"X"-"Y"-"Z" general, 1949.	8	17

**1950-1959.**

	Box	Folder
"A" general, 1950-1959.	9	1
Atlantic Refining Company, 1950-1951.	9	2
"B" general, 1950-1959.	9	3
"B" general, 1950-1959.	9	4
Bordes, F.H., 1947-1952.	9	5
"C" general, 1950-1959.	9	6

1950-1959

"C" general, 1950-1959.	9	7
"C" general, 1953-1956.	9	8
"C" general, 1957.	9	9
"D" general, 1950-1952.	10	1
"D" general, 1954-1956.	10	2
"D" general, 1957.	10	3
"D" general, 1958-1959.	10	4
Department of Geology and Paleontology, Academy of Natural Sciences of Philadelphia, 1949-1950.	10	5
"E" general, 1950-1953.	10	6
"E" general, 1954-1956.	10	7
"E" general, 1957-1959.	10	8
Ericson, David, 1954-1955.	10	9
"F" general, 1950-1954.	10	10
"F" general, 1955-1959.	10	11
"G" general, 1950-1952.	10	12
"G" general, 1953-1956.	10	13
"G" general, 1957-1959.	10	14

1950-1959

"G" general, 1959.	10	15
"H" general, 1950-1952.	11	1
"H" general, 1953-1956.	11	2
"H" general, 1957-1958.	11	3
"H" general, 1959.	11	4
"I" general, 1950-1959.	11	5
"J" general, 1950-1952.	11	6
"J" general, 1953-1956.	11	7
"J" general, 1957-1959.	11	8
"K" general, 1950-1952.	11	9
"K" general, 1953-1959.	11	10
"L" general, 1950-1952.	12	1
"L" general, 1953-1956.	12	2
"L" general, 1957.	12	3
"L" general, 1959.	12	4
"M" general, 1950-1952.	12	5
"M" general, 1953-1954.	12	6
"M" general, 1955.	12	7

1950-1959

"M" general, 1956.	12	8
"M" general, 1957.	12	9
"M" general, 1957-1959.	12	10
"Mac" - "Mc" general, 1950-1952.	12	11
"N" general, 1950-1952.	12	12
"N" general, 1953-1959.	12	13
"O" general, 1950-1952.	13	1
"O" general, 1953-1956.	13	2
"O" general, 1957-1959.	13	3
"P" - "Q" general, 1950-1952.	13	4
"P" - "Q" general, 1953-1956.	13	5
"P" - "Q" general, 1957.	13	6
"P" - "Q" general, 1958-1959.	13	7
"R" general, 1950-1953.	13	8
"R" general, 1954-1956.	13	9
"R" general, 1957-1959.	13	10
Russia trip, regarding lecture given, 1958.	13	11
"S" general, 1950-1952.	13	12

1950-1959

"S" general, 1953-1956.	14	1
"S" general, 1957-1958.	14	2
"S" general, 1959.	14	3
Shell Oil Company, 1945-1952.	14	4
"T" general, 1950-1952.	14	5
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**Atlantic Coastal Plains Project (ACPP), 1928-1976.****Scope and Contents note**

The "Atlantic Coastal Plains Project (ACPP)" records, document Richards' work studying the Quaternary Period, and collecting fossils and well samples from the coastal plain of the eastern United States, between Long Island and Florida. These materials are arranged into eight subseries, "Correspondence," "Quarterly reports," "Regional data and correspondence," "Office of Naval Research," "Related articles," "Bibliography of the Geology of the Atlantic Coastal Plains," "Atlantic Coastal Plains Geological Association," and "Commissioned reports". The "Correspondence" subseries houses incoming and outgoing correspondence with various scientists, oil companies and other sponsoring agencies regarding financial contributions, work progress, both deep water well and oil well samples; and other business

## Correspondence

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related to the ACP. The next subseries, "Quarterly reports" is comprised of an incomplete set of official quarterly project reports dated from 1948 to 1976. "Regional fieldwork data and correspondence" consists of drill logs, well results, lists of fossils, sample data charts, lists of localities, maps, progress reports, notes and correspondence related to specific field work locations, such as places in New Jersey, New York, North Carolina, Virginia and others. The "Office of Naval Research" material consists of grant applications, progress reports, budgets and correspondence with Office of Naval Research geologists and other staff. In the "Related Articles" subseries, researchers will find manuscript versions of articles related to ACP field work. It is not clear if all the articles were published. The "Bibliography of the Geology of the Atlantic Coastal Plains" was a publication compiled by Richards and the subseries maintains a manuscript copy of the work, as well as related correspondence. The "Atlantic Coastal Plains Geological Association" subseries contains correspondence related to the association's activities such as meetings, field conferences and published field guides. "Commissioned reports" are various reports written for specific oil companies. The reports contain a significant amount of raw data about the geology of a specific area and its potential as an oil resource. The ACP materials span from 1928 to 1976 and are arranged chronologically, with the "Regional data and correspondence" arranged alphabetically by region. There may be related material in the "Correspondence" and "Travel" series, as well as "Images".

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## International Union of Quaternary Research (INQUA)

**International Union of Quaternary Research (INQUA), 1946-1981.****Scope and Contents note**

The next series, "International Union of Quaternary Research (INQUA)," consists of materials related to INQUA meetings and the meetings of INQUA's sub-commissions. This consists of mostly correspondence; as well as membership lists; trip reports and attendance rosters; some circulars; bulletins and official reports; and the constitution and by-laws for the Commission on Shorelines. The materials date from 1946 to 1981 and are arranged chronologically. Related material may be found in "Correspondence" and "Travel."

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The "*Annotated Bibliography of Quaternary Shorelines*" series includes lists of articles, and correspondence, mainly with the National Science Foundation, but also with various scientists to collect citations. This series also contains grant applications, project reports, budget and fiscal reports, research notes, a manuscript of the second supplement of the *Annotated Bibliography of Quaternary Shorelines* and index card research notes. The materials date from 1963 to 1979 and are arranged chronologically. Related materials may be found in "Correspondence."

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National Science Foundation, grant application and correspondence, 1968.	28	37
General notes, 1969.	28	38
National Science Foundation, budget and fiscal report, 1972-1974.	28	39
General research notes, 1970-1973.	28	40
List of articles, Mediterranean area, Cadiz, Canary Islands, circa 1972.	28	41
National Science Foundation, correspondence, 1973-1974.	28	42
Quaternary of the Caspian Sea, correspondence, 1973-1974.	28	43
Draft, Second Supplement, 1970-1973, chapter 1, general, circa 1974.	28	44
Draft, Second Supplement, 1970-1973, chapter 2, Atlantic Coast of the United States, circa 1974.	28	45
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Draft, Second Supplement, 1970-1973, chapter 4, Canada, circa 1974.	28	47
Draft, Second Supplement, 1970-1973, chapter 5, Alaska, circa 1974.	28	48
Draft, Second Supplement, 1970-1973, chapter 6, Mexico and Central America, circa 1974.	28	49
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Draft, Second Supplement, 1970-1973, chapter 8, South America, circa 1974.	28	51

## Annotated Bibliography of Quaternary Shorelines (ABQS)

Draft, Second Supplement, 1970-1973, chapter 9, Greenland, circa 1974.	28	52
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Draft, Second Supplement, 1970-1973, chapter 11, France, circa 1974.	28	54
Draft, Second Supplement, 1970-1973, chapter 12, Belgium and the Netherlands, circa 1974.	28	55
Draft, Second Supplement, 1970-1973, chapter 13, Germany, circa 1974.	28	56
Draft, Second Supplement, 1970-1973, chapter 14, Scandinavia, circa 1974.	28	57
Draft, Second Supplement, 1970-1973, chapter 15, Poland, circa 1974.	28	58
Draft, Second Supplement, 1970-1973, chapter 16, Union of Soviet Socialist Republics, circa 1974.	28	59
Draft, Second Supplement, 1970-1973, chapter 17, Spain and Portugal, circa 1974.	28	60
Draft, Second Supplement, 1970-1973, chapter 18, Italy, circa 1974.	28	61
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Draft, Second Supplement, 1970-1973, chapter 27, Red Sea, Arabia, and Iran, circa 1974.	28	70
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Draft, Second Supplement, 1970-1973, chapter 33, China, Hong Kong, Taiwan and vicinity, circa 1974.	28	76
Draft, Second Supplement, 1970-1973, chapter 34, Japan, circa 1974.	28	77
Draft, Second Supplement, 1970-1973, chapter 35, Antarctica, circa 1974.	28	78

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Index card research notes, C-G, circa 1964.	29	2
Index card research notes, H-N, circa 1964.	29	3
Index card research notes, O-S, circa 1964.	29	4
Index card research notes, T-Z, circa 1964.	29	5

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### Professional Societies, 1944-1980.

#### Scope and Contents note

The "Professional Societies" series is made up of materials related to Richards' involvement with various professional associations such as: American Association of Petroleum Geologists, American Geological Institute, Association of Geology Teachers, Geological Society of America, Geological Society of New Jersey, and the Philadelphia Geological Society, among others. The files typically include correspondence, meeting programs, bulletins, newsletters, lecturer itinerary, preliminary reports, announcements, by-laws, membership lists, trip guides, grant applications, and distributed papers, which are research papers sent to members by the sponsoring organization. Materials date from 1944 to 1980 and are arranged alphabetically by society. Although there is correspondence related to each of the professional groups represented in this series filed here, researchers are advised to peruse the general "Correspondence" series as well.

	Box	Folder
American Association of Petroleum Geologists, correspondence, 1944-1946.	30	1
American Association of Petroleum Geologists, Thirty-First Annual Meeting program, 1946 April .	30	2

## Professional Societies

American Association of Petroleum Geologists, bulletin, 1946 May.	30	3
American Association of Petroleum Geologists, distinguished lecturer itinerary, 1946 May.	30	4
American Association of Petroleum Geologists, correspondence, 1946-1952.	30	5
American Association of Petroleum Geologists, correspondence, 1947.	30	6
American Association of Petroleum Geologists, correspondence, 1948-1949.	30	7
American Association of Petroleum Geologists, correspondence, 1949.	30	8
American Association of Petroleum Geologists, Committee on Geologic Names and Correlation preliminary report, 1949.	30	9
American Association of Petroleum Geologists, Committee on Stratigraphic Correlations annual report, 1964.	30	10
American Association of Petroleum Geologists, meeting memorandum, 1969.	30	11
American Geological Institute, newsletters, 1950, 1968.	30	12
American Geological Institute, weekly bibliographical bulletin, "Novyyee Knigi", bulletins, 1962.	30	13
American Geological Institute, weekly bibliographical bulletin, "Novyyee Knigi", bulletins and correspondence, 1963.	30	14
American Geological Institute, weekly bibliographical bulletin, "Novyyee Knigi", bulletins, 1964.	30	15



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Association of Geology Teachers, by-laws, reports, and membership lists, 1951-1961.	30	16
Association of Geology Teachers, trip guides, Triassic Lowland and Coastal Plain, 1954.	30	17
Eastern Friends of the Pleistocene, annual meeting announcement, 1979.	30	18
Geological Society of America, grant application, project reports, and correspondence, 1933-1940.	30	19
Geological Society of America, correspondence, 1941-1944.	30	20
Geological Society of America, project agreement, "Stratigraphy and Macrofossils from Deep Wells Along the Atlantic Coastal Plain", 1944.	30	21
Geological Society of America, Spitzenberg conglomerate, guide and map, 1946 May.	30	22
Geological Society of America, second preliminary report, "Correlation of Deep Wells of Atlantic Coastal Plain, Long Island to Georgia, 1946.	30	23
Geological Society of America, trip guide, Columbia South Carolina, 1954 April.	30	24
Geological Society of America, trip guide, Denver Colorado, 1960.	30	25
Geological Society of America, local committee bulletin number 5, 1968 July 1.	30	26
Geological Society of America, correspondence, 1969.	30	27
Geological Society of Miami, trip guide, 1959 January .	30	28

## Professional Societies

Geological Society of New Jersey, distributed papers, 1958.	30	29
Geological Society of New Jersey, newsletters, 1958-1962, 1965.	30	30
Geological Society of New Jersey, distributed papers and newsletters, 1959, 1961.	30	31
Geological Society of New Jersey, distributed papers, 1960-1962.	30	32
Geological Society of New Jersey, distributed papers, 1963-1965.	30	33
Geological Society of New Jersey, annual meeting symposium papers, 1969, undated.	30	34
Geologique des Caraibes, seventh conference, paper abstracts and attendance roster, 1974 July.	30	35
International Geological Congress, Paris, correspondence, 1980.	30	36
New Jersey Geological Survey, distributed papers, 1969.	30	37
New Jersey Geological Survey, distributed papers, 1971.	30	38
North American Paleontological Convention, schedule and trip announcements, 1969.	30	39
Pacific Science Association, congress XIV, Union of Soviet Socialist Republics, correspondence, 1979.	30	40
Paleontological Research Institution, reports, 1964.	30	41
Paleontological Society, constitution amendments, undated.	30	42
Pan-Pacific Congress, Tokyo, correspondence, 1966.	30	43

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Pennsylvania Geologists, Thirty-Sixth Annual Field Conference announcement, 1971.	30	44
Philadelphia Geological Society, by-laws and correspondence, 1960.	30	45
Philadelphia Geological Society, newsletters, correspondence and membership list, 1961.	30	46
Philadelphia Geological Society, correspondence, 1962.	30	47
Philadelphia Geological Society, correspondence and announcements, 1963.	30	48
Philadelphia Geological Society, correspondence and announcements, 1964.	30	49
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Philadelphia Geological Society, announcements, 1966.	30	51
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Philadelphia Geological Society, announcements, 1968-1969.	30	53
Philadelphia Geological Society, announcements, 1970.	30	54
Philadelphia Geological Society, announcements, 1971.	30	55
Philadelphia Geological Society, announcements, 1972.	30	56
Philadelphia Geological Society, announcements, 1973.	30	57
Philadelphia Geological Society, announcements, 1974.	30	58
Pittsburgh Geologists, Ordovician Symposium program, 1947.	30	60

## Travel

Society of Economic Paleontologists and Mineralogists (SEPM), northeastern section, trip guide, Delaware coastal area, 1968.	30	60
State Geologists, membership list, 1958.	30	61
Virginia Academy of Science, Section of Geology, trip guide, Roanoke, 1948 May.	30	62

**Travel, 1929-1977.****Scope and Contents note**

The documents housed in the "Travel" series, pertain to trips to various places around the world that Richards organized and/or participated in. A majority of the records are expense reports, however, there are also work reports, correspondence, itinerary, letters of introduction, a handwritten diary of his trip to Europe, and a few "Crossing the Line" certificates, issued on board airplanes when Richards crossed the equator. The materials date from 1929 to 1977 and are arranged chronologically. Additional materials may be found in "Correspondence," "Atlantic Coastal Plains Project (ACPP)" and "International Union of Quaternary Research (INQUA)."

	Box	Folder
Report, dredging cruise off New Jersey, 1929-1930.	31	1
Correspondence, Wilmington, North Carolina trip, 1930.	31	2
Correspondence, A. E. Parr, dredging in Delaware Bay, 1930-1931.	31	3
Correspondence, survey of the marine invertebrate animals of New Jersey, 1931.	31	4
Letters of introduction, 1932, 1935.	31	5
Expenses, James Bay, 1933.	31	6

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Expenses, Cuba, 1933.	31	7
Letters of Introduction, 1933-1963.	31	8
Newspaper clipping, Mangarevan expedition, 1934.	31	9
Correspondence, Texas, Louisiana and New Jersey, 1935-1939.	31	10
Expenses, Cozumel Island, Mexico, British Honduras, 1936.	31	11
Expenses, Honduras, 1937.	31	12
Expenses, Nicaragua, 1938.	31	13
Expenses, Margarita Island, 1939.	31	14
Correspondence, Gaspe expedition, 1939.	31	15
Work reports, 1940.	31	16
Expenses, Hudson Bay, 1940.	31	17
Preliminary report, Texas, 1940.	31	18
Correspondence, summer expedition, 1940.	31	19
Work reports, 1941.	31	20
Expenses, Baja, California, 1941.	31	21
Expenses and work report, American Philosophical Society grant, 1942.	31	22
Work reports, 1943.	31	23
Expenses, American Philosophical Society grant, 1944.	31	24

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Work report, 1945.	31	25
Expenses, Mexico, 1945.	31	26
Expenses, Geological Society of America grant, 1946.	31	27
Certificates, souvenirs and mementos, 1946-1972.	31	28
Expenses, general, 1947.	31	29
Expenses, Arctic Canada, 1948.	31	30
Expenses, Coastal Plain Project, 1948.	31	31
License to enter Northwest Territories of Canada, 1948 July 5.	31	32
Expenses, general, 1949.	31	33
Expenses, Florida, 1948-1952.	31	34
Expenses, Europe, 1949.	31	35
Expenses, Nova Scotia, 1950.	31	36
Expenses, Europe, 1951.	31	37
Letter on visiting Yugoslavia, 1951.	31	38
Expenses and correspondence, general, 1951.	31	39
Diary, Europe, 1951 June 20-1951 July 17.	31	40
Expenses, general, 1952.	31	41
Expenses, International Congress, Algiers, 1952.	31	42

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Expenses, Cayman, 1952.	31	43
Inventory of Quaternary locations, 1952.	31	44
Correspondence, notes and log, Raitan Field Conference, 1952, 1956.	31	45
Expenses, Ethiopia, 1954.	31	46
Expenses, Delaware River Port Authority, 1954-1955.	31	47
Certificates for crossing the Equator, 1954, 1955.	31	48
Expenses, Northern Rhodesia, 1955.	31	49
Expenses, International Geological Congress, Mexico, 1956.	31	50
Expenses, Scandinavia, 1956.	31	51
Expenses, Philadelphia Engineers, 1956.	31	52
Correspondence and reports, Karnell property, 1956-1958.	31	53
Expenses, Spain, Union of Soviet Socialist Republics, 1957.	31	54
Expenses, East Germany, 1958.	31	55
Expenses, Union of Soviet Socialist Republics, 1958-1963.	31	56
Expenses and correspondence, general, 1959.	31	57
Expenses, International Geological Congress, 1960.	31	58
Expenses, general, 1961.	31	59
Expenses, general, 1962.	31	60

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Reports, California, Oregon, 1962.	31	61
Expenses, general, 1963.	31	62
Expenses, Grand Canary, Frobisher Bay, 1963.	31	63
Expenses, India, 1964.	31	64
Expenses, general, 1964.	31	65
List of fossil localities, California, 1964.	31	66
Expenses, general, 1965.	31	67
Expenses, California, 1965.	31	68
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Expenses, Bahamas, 1966.	31	70
Expenses and correspondence, Pacific Science Congress, Tokyo Japan, 1966.	31	71
Expenses, general, 1967.	31	72
Expenses, Pan African Congress, 1967.	31	73
Expenses, general, 1968.	31	74
Expenses, general, 1969.	31	75
Correspondence and maps, Fiji, 1969-1970.	31	76
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Expenses and correspondence, Africa, 1970.	32	2
Expenses, general, 1971.	32	3
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Reports, Easter Island expedition, 1972.	32	5
Reports, Sonora, Mexico, 1972.	32	6
Expenses, general, 1973.	32	7
Expenses, Coastal Plain Project, 1973.	32	8
Expenses, general, 1974.	32	9
Correspondence, Spain, 1975.	32	10
Expenses, Coastal Plains Project, 1975, 1977.	32	11
List of foreign trips from 1932 to 1977, circa 1977.	32	12
Road log, field trip towards Harrisburg, undated.	32	13
Geological summary, Suffolk, Great Britain, undated.	32	14

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### Presentations, 1929-1973.

#### Scope and Contents note

The "Presentations" series houses typescripts of lectures and presentations given for various occasions regarding mollusks, shorelines and climate change, as well as other geological and quaternary subjects. The series dates from 1929 to 1973 and is arranged chronologically.

## Presentations

	Box	Folder
"Fossils from the Pleistocene of New Jersey, Indicating a Warm Interglacial Period", 1929 December 27.	33	1
"Further Evidence of a Warm Interglacial Period on the Atlantic Coast", 1930 December 30.	33	2
"Mollusks as Climate Indicators of the Pleistocene", 1931 May 1.	33	3
"The Parvin Park Boulder", 1935.	33	4
Draft, "Wandering Through Central America", 1937.	33	5
"Wandering Through Central America", 1937.	33	6
"Flying Down to Yucatan, a Visit to Cozumel, the Sacred Island of the Ancient Mayans", 1937.	33	7
"The International Symposium on Early Man", 1937 March 17-1937 March 20.	33	8
"Marine Pleistocene Mollusks as Indicators of Time and Ecological Conditions", 1937.	33	9
"Marine Pleistocene Mollusks of the East Coast of North America", 1940.	33	10
"To Hudson Bay and the Barren Lands", 1941.	33	11
"To the Lost Beaches of Hudson Bay", 1941.	33	12
Lists of lectures, 1947-1949, circa 1949.	33	13
"The Vincentown Formation of New Jersey", 1956 May.	33	14

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"To Far Off Samarkand", 1958 March 13.	33	15
Certificate of appreciation for address before the Kiwanis Club of Cape May, 1959 August 12.	33	16
"Studies on the Marine Pleistocene Fauna of the Atlantic Coastal Plain", 1961.	33	17
Cape May Geographic Society lecture program, 1963 August 9.	33	18
"Quaternary Shorelines", 1963.	33	19
Introduction of Dr. Lewis Leaky, Richard Hopper Day Medal recipient, 1964.	33	20
"Fossils from Cores Taken Off the Coast of Chile", 1964.	33	21
Shoreline erosion correspondence, regarding testimony.	33	22
"A Summary of the Marine Quaternary of the Pacific Coast of North and South America", 1966.	33	23
"Recent Activities in Geology and Paleontology of Interest to Pennsylvanians, 1967 February 22.	33	24
Geology 100, list of speakers, 1968.	33	25
"A Quaternary Elevated Beach Along the Gulf of California in Sonora, Mexico", 1973.	33	26
Prehistoric Pennsylvania, undated.	33	27

## Radio scripts

**Radio scripts, 1945-1962.****Scope and Contents note**

Following is the "Radio scripts" series, which consists of typescripts of several radio and television programs where Richards was a guest talking about various geological topics. The series dates from 1945 to 1962 and is arranged chronologically.

	Box	Folder
KYW, "Let's Visit the Zoo", 1945 November 10.	33	28
Radio Broadcast, "When Dinosaurs Roamed New Jersey", 1948 October 11.	33	29
WFIL-TV, "Science is Fun" and "Volcanoes", 1949 October 28.	33	30
WFIL-TV, "Science is Fun: the Study of Fossils", 1950 March 10.	33	31
Radio Broadcast, "Along the Jersey Shore", 1950 June 4.	33	32
National Broadcasting Company, "We the People", 1950 November 30.	33	33
WFIL-TV "Science is Fun" and "Discovery of the Giant Sloth", 1951 January 3.	33	34
WRCV-TV, "Concept", 1962 May 1.	33	35

**Writings, 1928-1981.****Scope and Contents note**

Richards wrote and published numerous articles and books, and documents related to that work are housed in the "Writings" series. Researchers will find typescripts, reprints, correspondence, research notes, as well as a contract and some royalty reports. The materials in this series are fragmentary, and

## Writings

none of his written works are particularly well documented. These materials date from 1928 to 1981 and are arranged alphabetically by publication title or topic if exact title was not given.

	Box	Folder
"List of Publications," 1-292, circa 1980.	33	36
"List of Publications," 1-292, circa 1980.	33	37
"Additions to South Jersey Novels," publication, 1981.	33	38
"Animals of the Seashore," correspondence, 1928.	33	39
"Animals of the Seashore," correspondence, 1929.	33	40
"Animals of the Seashore," correspondence, 1930.	33	41
"Animals of the Seashore," correspondence, 1931.	33	42
"Animals of the Seashore," correspondence, 1932.	33	43
"Animals of the Seashore," correspondence, 1933.	33	44
"Animals of the Seashore," correspondence, 1934.	33	45
"Animals of the Seashore," correspondence, 1935.	33	46
"Animals of the Seashore," correspondence with Bruce Humphries, 1936-1966.	33	47
"A Book on Rocks," contract, 1955.	33	48
"A Brief Summary of the Piney Point Formation and its Possible Use for Sewage Disposal in Cape May County, New Jersey," manuscript, 1971 July 1.	33	49

## Writings

"Camp Pendleton," manuscript fragment, page 2, circa 1963.	33	50
"Changes in Shoreline During the Past Million Years," publication, 1970 June 18.	33	51
"Developments in Atlantic Coastal States Between New Jersey and South Carolina in 1953," reprint, 1954 June.	33	52
"Developments in Atlantic Coastal States Between New Jersey and South Carolina in 1956," reprint, 1957 June.	33	53
"Developments in Atlantic Coastal Plain Between New Jersey and North Carolina in 1973," photocopy, 1974 August.	33	54
"Fosiles en Testigos Tomados Fuera de la Costa de Chile," reprint, 1968.	33	55
"Furry Animals," photograph of palm trees used in publication, undated.	33	56
"Geological Field Trip to Florida and the Bahamas," manuscript, 1937 January 22-1937 February 8.	34	1
"Geological Field Trip to Florida and the Bahamas," map of unfrequented islands, 1937.	34	2
"Geophysical and Stratigraphic Investigations in the Atlantic Coastal Plain," publication, 1953.	34	3
"Homo Sapiens after Linn.: Content and Earliest Representatives," manuscript, 1969 February.	34	4
"Lapita Pottery and a Lower Sea Level in Western Samoa," reprint, 1975.	34	5
"Late Cenozoic Stratigraphy of Southern Florida," book review, circa 1968.	34	6

## Writings

"The Marine Quaternary of North and South America," manuscript, 1964.	34	7
Minerals, correspondence, 1946-1948.	34	8
"Mollusks Collected by Captain R.A. Bartlett from Greenland and Adjacent Seas," manuscript, 1932.	34	9
"New Evidence for Marine Phase of Raritan Formation (Cretaceous) in New Jersey Coastal Plain," photocopy, circa 1961.	34	10
"Notes on the Geology and Paleontology of the Cape May Canal, New Jersey," correspondence and partial manuscript, 1943.	34	11
"Note on the Submerged Meadows of New Jersey," correspondence, 1931.	34	12
"One Hundred South Jersey Novels," publication, 1947.	34	13
"An Outline of Previous Work on the Pennsauken Formation of New Jersey," manuscript, 1949.	34	14
Pleistocene fossils studied, reports, 1938-1942.	34	15
Pleistocene mollusks, correspondence, 1956-1963.	34	16
Pleistocene mollusks, tables, undated.	34	17
"Pleistocene Mollusks from Cores Taken from the Continental Shelf of Argentine and Chile," publication, 1966.	34	18
"The Pocono Mountains," manuscript, circa 1960.	34	19
"Post-Miocene Stratigraphy Central and Southern Atlantic Coastal Plain," publication, 1974.	34	20

**Academics**

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"Quaternary Mollusks from Fiji," reprints, 4 copies, 1972.	34	21
"Recent and Pleistocene Marine Shells of James Bay," article fragment, 1937.	34	22
"Record of the Rocks," correspondence and research notes, 1951-1952.	34	23
"Record of the Rocks," correspondence, 1953.	34	24
"Restoration of a Collection of Fossil Plants of the Academy of Natural Sciences of Philadelphia," manuscript and correspondence, 1971-1973.	34	25
"Some Tertiary Fossils from the Goajira Peninsula of Colombia," reprint, 1961.	34	26
"The Story of Earth Science," publication announcement, 1959.	34	27
"The Story of Earth Science," royalty reports, 1959-1969.	34	28
"Subway Tree," correspondence, 1931-1932.	34	29
Untitled manuscript fragment, undated.	34	30
Untitled manuscript, undated.	34	31
"Wanderings Through Central America: the Diary of an Unusual Trip," photocopy of typescript, 1937.	34	32

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**Academics, 1927-1932.****Scope and Contents note**

Researchers will find records related to Richards' graduate work at the University of Pennsylvania in the "Academics" series. Of note, is a typescript copy of his Master's thesis as well as notes and



## Academics

correspondence related to his research for that project. There is also an examination, a draft of a commencement address and a letter to Richards' father from a professor about Richards' work performance and the high probability of his receiving a fellowship. The materials date from 1927 to 1932 and are arranged chronologically.

	Box	Folder
"A Discussion of the Evidence that the Sarcodina Have Evolved Independently from Various Groups of Mastigophora", manuscript, 1927 May.	35	1
"Some Observations on the Marine Protozoa in the Tanks in the Vivarium at the University of Pennsylvania", manuscript, 1928.	35	2
New Jersey weather records, 1928-1929.	35	3
"Marine Insects", manuscript, 1928 April.	35	4
"A Survey of the Invertebrates of New Jersey", manuscript fragment, circa 1928.	35	5
List of specimens collected in New Jersey, 1928-1932.	35	6
Dawson, J.A., letter with diconamous key on identifying Richards' collection of diconanmous, 1929.	35	7
"Acclimatization from Fresh to Salt Water and Vice Versa", manuscript, 1929 May .	35	8
"A Faunistic Survey of the Marine Invertebrates of New Jersey, with Especial Reference to the Cape May Region, master's thesis manuscript, 1929.	35	9

## Certificates

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"A Faunistic Survey of the Marine Invertebrates of New Jersey, with Especial Reference to the Cape May Region, master's thesis manuscript, 1929.	35	10
Letter to Horace Clark Richards about his son receiving a fellowship, 1929.	35	11
Examinations, 1930.	35	12
Correspondence on manuscript on fauna of the Delaware Bay region, 1930-1932.	35	13
Draft of commencement address, undated.	35	14

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### Certificates, 1927-1971.

#### Scope and Contents note

The "Certificates" series includes all three of his diplomas from the University of Pennsylvania, his appointments to various positions, honors and awards. Materials date from 1927 to 1971 and are arranged chronologically.

	Oversize	Folder
Bachelor of Liberal Arts, University of Pennsylvania, 1927.	77	1
Master of Science, University of Pennsylvania, 1929.	77	1
Doctorate of Philosophy, University of Pennsylvania, 1932.	77	1
President's Award, American Association of Petroleum Geologists, 1945 July.	77	1

## Student papers

	Oversize	Folder
Appointment, Chairman of the Department of Geology and Paleontology, Academy of Natural Sciences of Philadelphia, 1960 February 25.	35	15
Appointment, Research Associate in Geology, Columbia University, 1964-1966.	35	16
Appointment, Senior Research Associate, Lamont Geological Observatory, 1966.	35	17
Award of Merit, William Penn Charter School, 1971.	35	18
Lecturer Emeritus, Department of Geology, University of Pennsylvania, 1971.	35	19

**Student papers, 1935-1973.****Scope and Contents note**

The "Student papers" series houses typescript copies of Richards' students' work on various topics related to geology. The students either attended the university at which Richards taught or studied part of the Academy's collection with Richards. The papers date from 1935 to 1973 and are arranged alphabetically by the student's last name.

	Box	Folder
Barwis, John H., "Sedimentology and Paleoenvironments of the Oriskany Group of Eastern Pennsylvania", thesis manuscript, 1969.	36	1
Bennett, R.S., "The Geology of the Southern New Jersey Lagoon", manuscript, 1935 May 1.	36	2
Campbell, Lyle D., "Molluscan Paleontology of Nauakchottian (Holocene) Deposits of Mauritania and Senegal, West Africa", manuscript, 1968 May 2.	36	3

## Student papers

Camperson, Joseph F., "Studies on the Cretaceous Deposits of Long Island", manuscript, 1956.	36	4
Craig, "Studies and Interpretations of Pleistocene Molluscan Fossils from Peru and Argentina", manuscript, 1962 May 1.	36	5
Kerrigan, J.F., "Plio-Pleistocene Mollusca of East Anglia England: a Report on the Sample of Geology, the Academy of Natural Sciences of Philadelphia", manuscript, 1973 August 17.	36	6
McCallum, John Stewart, "Heavy Minerals of the Pre-Matawan Cretaceous Sediments of the New Jersey Coastal Plain", bound thesis, 1957 November.	36	7
Milburn, Pamela Burl, "Paleoecology of the Upper Pleistocene Mollusca of Southern and Baja California", manuscript, circa 1961.	36	8
Reed, Juliet C., "The Sedimentary Petrology of Outcrops of the Upper Cretaceous English Town Formation of New Jersey", thesis manuscript, 1956.	36	9
Sarma, Akkaraju V.N., "Holocene Paleoecology of South Coastal Ecuador", manuscript, 1973.	36	10
Schluger, Paul R., "Sedimentology of the Perry Formation, New Brunswick and Maine: Progress Report for 1968", manuscript, 1968.	36	11
Weiss, Richard C., "The Mollusca and Brachiopoda of a Locality in Franklin Pennsylvania", manuscript, 1960 June.	36	12
Wright, John C., "Summary of Literature on the Southern California Pleistocene", manuscript, circa 1963.	36	13

## Scrapbooks and newspaper clippings

Unknown author, "The Effects of Climate Changes on Population Movements in the North Sea Basin Area: 500B.C.-1500 A.D.", manuscript, circa 1961.	36	14
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Unknown author, "Pleasant Ridge Lake, Mississippi", manuscript, circa 1941.	36	15
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**Scrapbooks and newspaper clippings, 1931-1984.**
**Scope and Contents note**

The series "Scrapbooks and newspaper clippings," consists of four bound scrapbooks of newspaper clippings, announcements and some photographs, related to Richards' and his colleagues' work at the Academy. In addition to the scrapbooks, there are several folders containing loose newspaper clippings. The materials date from 1931 to 1984 and are arranged chronologically.

	Box	Folder
Newspaper clippings, 1930-1950.	37	1
Newspaper, featuring article, "Caribbean Research Barred by Shadow of Swastika", 1940 August 4.	37	2
Newspaper, featuring photo in, "The Discovery of the Remains of a Duck-Billed Dinosaur in the United States", 1948 March 6.	37	3
Newspaper clipping, "Making Bones Live", 1948 October 16.	37	4
Newspaper clippings, 1948-1968.	37	5
Newspaper clippings, 1961.	37	6
Fairbridge, Rhodes W., "Memorial to Horace Gardiner Richards (1906-1984)", circa 1984.	37	7

## Notebooks

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Scrapbook, #1, 1931-1943.	37	1
Scrapbook, #2, 1943-1950.	37	2
Scrapbook, #3, 1951-1953.	37	3
Scrapbook, #4, 1956-1964.		38

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### Notebooks, 1928-1962.

#### Scope and Contents note

The "Notebooks" series houses 11 notebooks which contain vital descriptive and cataloging information about Richards' hundreds of photographs and negatives. These notebooks offer information regarding negative numbers one to 1,338, photograph numbers one to 1,266 and 1,501, and for his 35 millimeter film numbers one to 158. There are also two notebooks of research notes that are labeled, "Book 8" and "Book 9." There are two sets of 4"x6" index cards, one is a photograph record with numbers 100 through 447 and K-0 through M-99, the other has research notes related to scientist Samuel George Morton. These materials date from 1928 to 1962 and are arranged chronologically.

	Box	Volume
Photograph catalogue, negatives 1-195, 1928.	39	1
Photograph catalogue, negatives 196-487, 1929.	39	2
Photograph catalogue, negatives 488-522, 1930.	39	3
Photograph catalogue, negatives 583-1113, 1931.	39	4
Photograph catalogue, negatives 1114-1338, 1931-1932.	39	5
Catalogue of photographs, 1-402, circa 1940.	39	6

## Audio

Catalogue of photographs, 403-652, 1941-1942.	39	7
Catalogue of photographs, 653-1117, 1943-1949.	39	8
Catalogue of photographs, 1118-1266 and "35mm Film", 1-90, 1950-1957.	39	9
"35mm Film", 90-158.	39	10
Catalogue of photographs, 1501-1811, 1957-1962.	39	11
Research notes, "Book 8", undated.	39	12
Research notes, "Book 9", undated.	39	13
Index cards, photograph record, 100-447, K-0-M-99, 1960-1975.		50
Index cards, research notes on Samuel Morton, undated.		50

**Audio, 1952-1953.****Scope and Contents note**

In the "Audio" series are two reels of Richards' appearance on radio programs. One reel is a recording of a show titled "North Africa" and the second is titled "Trieste." The audio reels date from 1952 and 1953 respectively.

	Box	Reel
"North Africa", 1952 December 14.	40	1
"Trieste, etc.", 1953 October 25.	40	2

## Images

**Images, 1932-1974.****Scope and Contents note**

Finally, is the series "Images." The images housed here were primarily produced during Richards' field work and expeditions, in various formats including color and black and white slides, negatives, photographs and lantern slides. Materials have been organized into subseries by type: "Photographs," "Photo Albums," "Negatives," "Maps," "Lantern Slides," and "Slides." The subseries "Photographs" houses a variety of loose images from Richards' fieldwork and expeditions, dating from 1943 to 1960. Many of photographs are numbered and some are annotated from use in the Academy publication *Frontiers*. The photographs are arranged by size and are in numeric order. Researchers should consult the above mentioned series "Notebooks" for possible connections between the photographs in this series and the descriptive information found in that series. In the next subseries, "Photograph Albums," researchers will find twenty-two albums documenting Richards' travels around the world. The albums are arranged chronologically and date from 1932 to 1949. The "Negatives" subseries is arranged chronologically and dates from 1932 to 1955. The negatives also have evidence of a numerical numbering system, which presumably corresponds to the "Notebooks" series. The negatives' envelopes are well labeled with dates, locations and negative numbers. The "Maps" subseries contains three maps which were used in the publication *Frontiers*. Two maps are undated, the third is dated 1950. The "Lantern slides" subseries is made up of two boxes, one box contains images from Richards' publications "Furry Animals" and "Seashore Life." The second box is of expeditions at various locations, such as California, New Jersey, New York, North Carolina, Texas and Mexico, and dates 1944, 1947 and undated. The lantern slides are well labeled and there is an itemized list included in each box. The "Slides" subseries make up a majority of the collection. Dating from 1945 to 1974, the slides are arranged chronologically. "Slides" include a reference number which may correspond to the information maintained in the "Notebooks" series. The slides were often used to illustrate his lectures and presentations. Some slides are housed in long narrow containers or "bins" which have then been placed inside larger boxes for ease of storage and use.

**Photographs, 1943-1960, undated.**

	Box	Folder
Expedition photographs, unidentified locations, 3"x4" and 4"x6", undated.	40	1-8



## Photographs

Graphs of diatoms (11), map showing sampling sites (2), diagram of microscope slide dryer (1), 3"x4" and photograph of microscope slide dryer (1), 4"x6", undated.	40	9
Water sampling device, 3"x4", undated.	40	10
Museum exhibit labels on photo paper, undated.	40	11
Paricutin Volcano, Mexico, 4"x6", 1943.	40	12
Cape May, New Jersey, mollusks, 4"x6", (#1048, 1049), undated.	40	13
Cozumel, Mexico, 4"x6", (#5313, 5315, 5328, 5354, 5393, 5397, 5407), undated.	40	14
Bahamas, 4"x6", (#5892), undated.	40	15
Guatemala, 4"x6", (#6216, 6237, 6254, 6254, 6263), undated.	40	16
West End, Roatan, Honduras, 4"x6", (#6363, 6347, 6368, 6377, 6401, 6414), undated.	40	17
Panama Canal, 4"x6", (#6893, 6897, 6925, 6963, 6975, 7008 and unnumbered photograph), undated.	40	18
Curacao, Caribbean, 4"x6", (#7674, 7736, 7754, 7833, 7838, 7866, 7968), undated.	40	19
Eskimo Point, 4"x6", (#8426, 8493, 8497, 8534, 8593, 8631, 8648 and unnumbered photograph), undated.	40	20
Expedition, unidentified location, 4"x6", (#9108, 9118, 9171), undated.	40	21
Cape Hatteras, North Carolina, 5"x7", (#30744, 30748), 1945 December.	40	22

## Photographs

Lofoten Islands and Bodo, Norway, 5"x7", (unnumbered), undated.	40	23
"Tree trunks on the shore," 8"x10", (#M-294), undated.	40	24
Expedition, unknown location, 8"x10", (#1085), undated.	40	25
Eskimo Point, 8"x10",(#8493, 8545), undated.	40	26
Expedition, unidentified location, 8"x10", (#9118, 9172), undated.	40	27
Coastal shorelines, unidentified location, 8"x10", (#9208, 9293, 9294), undated.	40	28
Expedition, unidentified location, 8"x10", (#9802), undated.	40	29
Expedition, unidentified location, 8"x10", (#10194), undated.	40	30
Mexico, 8"x10", (#10427), undated.	40	31
Expedition, unidentified location, 8"x10", (#10602, 10653, 10655, 10665), undated.	40	32
Expedition, unidentified location, 8"x10", (#10741, 10754, 10755), undated.	40	33
Expedition, Horace G. Richards with unidentified young man, unidentified location, 8"x10", (unnumbered), undated.	40	34
Horace G. Richards, posing with mollusk fossils for the <i>Philadelphia Inquirer</i> , 8"x10", (unnumbered), undated.	40	35
"Train tracks through the hills," 8"x10", (unnumbered), undated.	40	36
Unidentified group of people, 6"x9" and locusts in flight, Kenya, 8"x10", 1960.	40	37

## Photograph albums

Mounted photograph, "Nest of Hairy Woodpecker", undated.	40	38
Albino black duck (color sketches), 1948 January 4.	40	45
	Box	Folder
Oversized backed photographs, expeditions, unidentified location, (2), undated.	77	2
Oversized backed photographs, stibnite crystals, undated.	77	2
<b>Photograph albums, 1932-1949.</b>		
	Box	Volume
Bermuda, New England and Nantucket, 1931.	41	1
Cuba, 1933.	41	2
James Bay, 1933.	41	3
East Coast, 1933-1934.	41	4
Long Island and Nova Scotia, 1934.	41	5
Loose album pages and photographs, 1927-1934.	41	1
New England, North Carolina, South Carolina, Georgia, Florida, Texas and Louisiana, 1935.	42	1
North Carolina, Cuba, and Cozumel, Mexico, 1935-1936.	42	2
Southeastern states and Bahamas, 1936-1937.	42	3
Mexico, Guatemala, Honduras, Roatan and British Honduras, 1937.	42	4

## Photograph albums

British Honduras, Corn Island, Costa Rica, Panama, Canal Zone, Jamaica and Cuba, 1938.	43	1
North Carolina, Texas, Georgia, New England, and New Jersey, 1938-1939.	43	2
West Indies and Venezuela, 1939.	43	3
Hudson Bay, Churchill, Chesterfield Inlet and Eskimo Point, 1940.	43	4
Cross country (southern part) to Baja California, 1941.	44	1
New Jersey, North Carolina, and Gaspe, 1941-1942.	44	2
Mexico (Paricutin), 1944-1945.	44	3
Magdalen Island, Canada, Mexico, Guatemala and El Salvador, 1945.	44	4
Loose photographs, 1944.	44	1
United States American Association Petroleum Geologists, 1945-1946.	45	1
New Jersey, New England, and Louisiana, 1946-1947.	45	2
Sonora Desert, Lac Frontiere, Quebec, New Jersey, Pennsylvania and Virginia, 1947.	45	3
Wisconsin, Minnesota, Pennsylvania, New Jersey, Canada, North Carolina, South Dakota, and Colorado, 1947-1948.	45	4
Arctic Trip to Mackenzie Delta, and Tangier Island, Virginia, 1948-1949.	45	5

## Negatives

**Negatives, 1932-1955.**

	Box	Folder
Orthoptera, two walking sticks, 8"x10", 1954 September 23.	40	39
Orthoptera, grasshoppers (8 negatives), 4"x6", 1958 February 4.	40	40
Academy of Natural Sciences of Philadelphia diorama exhibits, mounted on glass, 1948 April, 1953 November 1, 1954 April 20, undated.	40	41
#289-580, 1932 August 31-1937 January 27.	46	1-291
#581-900, 1937 January 27-1941 July 28.	47	1-319
#901-1148, 1941 July 28-1946 July 15.	48	1-247
#1149-1383, 1813, unnumbered (3), 1946 July 20-1955 December 30, undated.	49	1-238

**Maps, 1950, undated.**

	Box	Folder
Migration route of snails, 1950 April.	40	42
Alaska, Northern Asian and Europe, undated.	40	43
Gulf of Saint Lawrence, undated.	40	44

**Lantern slides, 1944, 1947, undated.**

	Box	Folder
Expeditions, various locations, 1944, 1947, undated.	51	1-68

## Slides

"Furry Animals" and "Seashore Life", undated. 52 1-72

**Slides, 1945-1974.**

	Box	Bin
Saint Pierre, Miquelan, Mogdalon Islands, 1945, 1950.	70	1
Colorado Delta, Sonora, 1947, 1965.	70	2
Alaska Yukon, 1948.	70	3
Mackenzie Delta, 1948.		53
Europe, Czechoslovakia, Poland, 1949.	70	4
Great Britain, Germany, Switzerland, Scandinavia, 1949-1954.		54
Italy, 1951-1954.	70	5
North Africa, 1952.	70	6
Grand Cayman, 1952.	71	1
Balkans, Yugoslavia, Greece, Turkey, 1953.	70	7
Lebanon, Syria, Egypt, Eritrea, Ethiopia, Djibouti, Aden, 1954.	71	2
Ethiopia, Eritrea, Arden, 1954.	71	3
Middle East, Jordan, Israel, 1954, 1955.	71	4
Africa, 1955.	71	5
Berlin, 1956.	71	6

## Slides

Mexico, 1956.	71	7
Scandinavia, Europe, 1956.	71	8
Azores, Spain, 1957.	72	1
Union of Soviet Socialist Republics, Tashkent, Samarkand, Leningrad, 1957, 1959.	72	2
East Germany, Ukraine, Romania, 1958.	72	3
Saint Martin, Anguilla, 1958.	72	4
Bulgaria, 1959.	72	5
Moscow, Irkutsk, Union of Soviet Socialist Republics, 1959.	72	6
Denmark, Bornholm, Ireland, 1960.	72	7
Virgin Islands, 1960.	73	1
Geological localities, circa 1960-1962.		55
Peru, Ecuador, 1961.	73	2
Poland, Hungry, 1961.	73	3
Maine, Massachusetts, Long Island, New Jersey, Pennsylvania, Delaware, Maryland, Florida, 1961-1962.	73	4
Bermuda, 1962.	73	5
California, Oregon, 1962.	73	6
Columbia, 1962.	73	7

## Slides

Arctic, 1963.	73	8
Argent, Tierra del fury, 1963.	74	1
Canada, 1963.	74	2
Great Britain, Ireland, East Germany, Canary Islands, 1963-1964.		56
Baja, California, 1964.	74	3
Russia, India, Taiwan, Tokyo, Hong Kong, Hawaii, 1964-1965.		57
Grand Bahamas, Bimini, Turks, Caicos, 1965.	74	4
Bahamas, 1965, 1966.	74	5
Carsicz, 1965, 1975.		58
Alaska, Japan, Cyprus, Czechoslovakia, 1966, 1971.		59
Margarita, Venezuela, Brazil, Baja California, 1966, 1971.		60
Norway, Sweden, Denmark, Faroe, Orkney, England, 1967.		61
British Columbia, Washington state, Bermuda, 1967-1968.	74	6
Senegal, Mauritania, Union of Soviet Socialist Republics, Netherlands, Belgium, 1967, 1972, 1974-1975.		62
Easter Island, Chile, 1968.		63
Mexico, (Pariratin), 1968.	74	7
Montana, 1968.	74	8



## Slides

United States, 1968-19[7?].		67
Fiji, Australia, Bali, Singapore, Ceylon, Greece, INQUA Meeting in Paris, Normandy, 1969.		64
Portugal, South Africa, 1970.		65
Sonora, 1972.	75	1
Sonora, Southern United States, 1972.	75	2
Union of Soviet Socialist Republics, Madeira, Portugal, Spain, Morocco, 1972.		66
Bimini, Sonora, 1972, 1974.	75	3
INQUA New Zealand, 1973.		68
Sicily, Italy, Yugoslavia, 1973.	75	4
Union of Soviet Socialist Republics, Armenia, Azerbaijan, 1973.	75	5
Union of Soviet Socialist Republics, Georgia, England, 1973.	75	6
Iran, Egypt, 1974.		69
"Quaint Corners", undated.	74	9
Mississippi Delta, undated.	75	7
"Old Slides #1", Honduras, Roatan, Nicaragua, Corn Island, Costa Rica, Guatemala, Cozumel, Cuba, Tehuantehee, undated.	76	1
"Old Slides #2", West Indies, Margarita, Venezuela, undated.	76	2
"Old Slides #3", Baja California, Mexico, undated.	76	3

Slides

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"Old Slides #4", Paricutin, Salvador, Panama, Canada, undated.	76	4
Yugoslavia, Greece, Turkey, North Africa, Lebanon, undated.	76	5
Mexico, Central America, undated.	76	6
France, Belgium, Luxembourg, undated.	76	7