FINDING AID

Glacier Studies Collection

Images from Glacier Studies Collection

Prepared by

Yosemite National Park Archive Staff
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2013

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# TABLE OF CONTENTS

Copyright and Restrictions ................................................................. ii

History ................................................................. 1

Scope and Content ................................................................. 2

Hierarchy ................................................................. 4

Series Descriptions ................................................................. 5

File Unit Descriptions/Container List ..................................................... 8
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HISTORY

In 1931, acting director of the Department of the Interior, Horace Albright, created a Committee on Glaciers in the section of Hydrology of the American Geophysical Union. The committee focused on annual glacial surveys in various national parks including Lyell and Maclure Glaciers in Yosemite National Park. In the 1930s, Yosemite National Park naturalists C. A. Harwell, Bert Harwell, and M.E. Beatty, conducted the Lyell and Maclure Glacier surveys establishing photography point stations, and taking measurements. In addition to the Lyell and Maclure Glaciers, the naturalists also measured and incorporated other glaciers and glacierettes, including Dana, Conness, Koip, and Kuna in their reports. By 1941, the park naturalists’ in charge of the surveys, C. F. Brockman, M. E. Beatty and H.C. Parker, discovered that deviations in the environment were creating incorrect survey data. As a result, the 1941 glacier study concentrated on amending the survey methodology. Due to lack of personnel and funds, the glacier surveys of 1944 to 1946 were put on hold during World War II.

In the 1950s, the park resumed the surveys, focusing on photographing the glaciers. At this time the introduction of aerial photography was included in the surveys. The 1950s and 1960s saw a concentration on the Lyell Glacier, specifically measuring the east and west lobes. The 1960s saw significant changes to the survey. The United States Geological Survey began to contribute to the water and ice studies for the International Hydrological Decade by taking an active role in the surveys. In addition, the United States Forest Service began conducting surveys of their own allowing the U.S.G.S and Pacific West NPS to focus more on Yosemite National Park glaciers. By the 1970s, the annual survey was adjusted to every five years with a focus on Lyell, Maclure and Dana Glaciers, alternating survey years were conducted on smaller glaciers: Dana, Conness, Koip and Kuna. Although not completed on a regular basis, glacier surveys continue with data being compiled for the International Committee on Snow and Ice focusing on climate change.
SCOPE AND CONTENT

Glacier Studies Collection

CATALOG NUMBER
YOSE 233669

VOLUME
3.32 LF (10 manuscript boxes (8 -.5 LF, 2 -.25 LF); 1 oversize box (1-18.5 x 24,.01 LF); 1 oversize data box (1-5 x 5 x 7 box (4 rolls of data); 1 flat file drawer (11 items).

DESCRIPTION
The Glacier Studies Collection consists of reports, photographs, data, correspondence and negatives relating to glacier surveys conducted in and around Yosemite National Park. These surveys were completed as part of a larger National Park Service project.

ORGANIZATION
The Glacier Studies Collection is arranged to reflect the four types of material found in the collection: Program Records, Reports and Studies, Data, and Photography. Except for program records, the other series’ are arranged into subseries to further distinguish materials. Each subseries and series is then organized chronologically.

PROVENANCE
This is an artificial collection, housed together since the 1970s in the Yosemite National Park Research Library. The materials include National Park Service records, United States Geological Survey records, publications, and aerial photographs. The materials were deposited in the archives under one accession number: YOSE-07372 on March 14, 2013. Park Geologist, Greg Stock donated a collection of Hydrology data from the late 1960s and 1970s in 2011. Due to the fact this data was from the Glacier Studies, this accession is included in the collection.

RESTRICTIONS
NO

ASSOCIATED MATERIALS
Resource Management Records – Collection 1002, Yosemite National Park Archives; Natural Resources Management Records – Collection 1011, Yosemite National
Park Archives; Yosemite Association Records – Collection 2007, Yosemite National Park Archives; Film negative YOSE 81394, Yosemite National Park Archives; Yosemite Nature Notes Collection – Collection 1024, Yosemite National Park Archives; Yosemite Old Central Files Collection – Collection 1001, Yosemite National Park Archives
HIERARCHY

SERIES I. PROGRAM RECORDS, 1930-1971 (bulk dates: 1930-1959)

SERIES II. REPORTS AND STUDIES, 1931-1975

  Subseries A: Glacier Measurement Reports, 1931-1975
  Subseries B: Lyell Glacier Comparison Profiles, 1931-1970

SERIES III. DATA, 1922-1974

  Subseries B: Hydrology Data, 1968-1974


  Subseries A: Aerial Photographs, 1951-1969
SERIES DESCRIPTIONS

SERIES I: PROGRAM RECORDS, 1930-1971 (bulk dates: 1930-1959)  
.50 LF

The majority of material in this series consists of correspondence related to the glacier studies reports. Correspondence concerning glacier aerial photographs and the glacier investigation program are also included. Other prominent information in the program series includes reference information such as annotated maps, stadia tables for computations, historical inventories, observations, and memorandum of transcribed survey notes.

Arranged chronologically.

SERIES II: REPORTS AND STUDIES, 1931-1975  
2.0 LF

This series consists of reports, graphs, maps, and handwritten notes relating to the Yosemite National Park glacier surveys. The majority of material consists of reports detailing glacier measurements, but a small section focuses on the Lyell Glacier Profile.

Organized into two subseries, depending on type of report: Subseries A: Glacier Measurement Reports and Subseries B: Lyell Glacier Comparison Profiles. Each subseries is arranged chronologically.

Subseries A: Glacier Measurement Reports, 1931-1975  
1.70 LF

This series consists of reports detailing glacier measurements taken during the yearly glacier survey. The reports mostly consist of annotated photographs with captions detailing different measurements and observations. Glaciers measured include: Mount Lyell, Mount Maclure, Mount Dana, Mount Connex, Mount Koip and Mount Kuna. In the 1970s, Hutchings Creek Rock Glacier and Merced Creek Glacier were included in the surveys. Other reports found in this series include a report on Sawtooth Glacier from the Sierra Club, the Bird and Mammal Report taken during the Glacier Survey of 1935, and Consolidated Information of the 1940 Glacier Survey. Except for the Sierra Club report, the early glacier measurement reports were composed by National Park naturalists, including C.A. Harwell, Bert Harwell, M. E. Beatty, Frank Brockman, Harry R. Robinson, Robert N. McIntyre, Harry C. Parker. The reports from the 1950s were not authored but included a list of surveyors.

Arranged chronologically.

Subseries B: Lyell Glacier Comparison Profiles, 1931-1970  
.30 LF (Four folders)
This subseries contains graphs, maps, and handwritten notes comparing the measurements of the west and east lobes of Lyell Glacier.

Arranged chronologically.

**SERIES III: DATA, 1922-1974**

.30 LF and four rolls of data.

This series contains notations, field notes, and measurement tools detailing measurements and other data from the glacial surveys in Yosemite National Park.

This series is organized into two subseries: Glacier Field Data, and Hydrology Data, which are then arranged chronologically.


.30 LF

This subseries includes field journals, survey notes, graphs, and measuring notecards comprising of data from the glacier surveys in Yosemite National Park.

Arranged chronologically

**Subseries B: Hydrology Data, 1968-1974**

Four rolls of data

This subseries contains four rolls of data on recorder chart graphs relating to the Maclure Glacier upper temperature records and were likely recorded by the United States Geological Survey (USGS) for the 1967 International Hydrologic Year. The recorder charts used some type of thermal paper and are 100+ feet and as such, certain conservation concerns exist.

These four rolls of data are located in a compact disk box


.80 LF

This series includes photographic prints, aerial photographs, and acetate negatives depicting images of the Yosemite glaciers.

Organized into two subseries based on type of media: Subseries A: Aerial Photographs, and Subseries B: Prints and Negatives, which are then arranged chronologically.

**Subseries A: Aerial Photographs, 1951-1969**

.30 LF
This subseries includes 10” x 10” and 9” x 9” aerial photographs depicting overhead images of various glaciers including Maclure Glacier, Mount Ritter, Horse and Cattle Creek Glaciers, Dana, Conness, Sawtooth Ridge, Matterhorn, and Lyell Glaciers. Most of the photographs are labeled as being conducted by the United States Geological Survey. Folder 2 contains a summary report of the aerial photography survey taken in 1966.

Arranged chronologically.


This subseries contains black and white photographic prints and seven acetate negatives related to the glacier surveys conducted in Yosemite National Park. The images depict glaciers and their corresponding peaks in Yosemite National Park, including: Dana, Kuna, Koip, Gibbs, Lyell, West Maclure, Conness, and Forsyth Peak. Some of the photographs include photo station numbers. Photographers and members of the survey party include, Bruce Raby, A.E. Harrison, Harry Jones, Anderson, D. H. Hubbard, W.W Bryant, U.S. Army, U.S.F.S, McCrary, Stanley, Douglas Powell, Harry James, and Rocky Rockwell. Many of the prints include captions or notes.

Arranged chronologically.
File Unit Descriptions/CONTAINER LIST

Series I: Program Records, 1930-1971 (bulk dates: 1930-1959)

Series I: Box 1

Folder 0001. Geologic History of the Yosemite Valley (U.S.G.S. Professional Paper 160), 1930
*Oversize maps: 29 x 30.5, 37 x 18, and 37 x 17.5*
Folder 0002. Ice and Glaciers - Glacier Survey correspondence, 1930-1942

Folder 0003. Ice and Glaciers - Glacier Survey correspondence [Folder 1 of 2], 1943-1958

Folder 0004. Ice and Glaciers - Glacier Survey correspondence [Folder 2 of 2], 1943-1958

Folder 0005. United States Department of the Interior Geological Survey - Stadia Tables for Obtaining Differences of Elevation, 1947 December

Folder 0006. 1948 Glacier Observations by Carl Sharsmith, 1948


Folder 0008. Glacier Survey - maps and comparison photographs, 1950-1960
*Oversize annotated maps: 35 x 30, 17 x 21, 29.5 x 24, 22 x 27.5; black and white photographs*
Folder 0009. Topographic Map: Devils Postpile, California, 1953
*Oversize map: 38 x 15.5*
*Black and white photograph*

Folder 0012. 551 - Glacier Survey - 1959, 1959 December 20-1961 April 3
*Oversize graphs: 20 x 12, 19 x 10*


Folder 0016. Maclure Glacier, California: A Contribution to the International Hydrological Decade by Willard W. Dean, 1974 April
Presented at the Western Snow Conference, Anchorage Alaska 1974 April; YOSE-07218
Folder 0017. Marked Map: Lundy Pass to Conness Glacier, undated
Verso of map: Gus Hess, Caretaker Tungsten Associates, Ltd. Saddlebag Lake

Series II: Reports and Studies, 1931-1975

Series II: Subseries A: Glacier Measurement Reports, 1931-1975

Series I: Subseries A: Box 1


1932 Glacier Studies. C. 2 not complete
1932 Glacier Studies
Folder 0004. Report of Glacier Measurements: Mt. Lyell, Mt. Maclure, Mt. Dana, Mt. Conness, 1933 October
1933 Glacier Studies
Folder 0005. Report of Glacier Measurements - Mt. Lyell, Mt. Maclure, Mt. Dana, Mt. Conness - 1933 by Bert Harwell, 1933 October
1933 Glacier Studies
1934 Glacier Studies
1934 Glacier Studies [partial report, includes correspondence between Yosemite and Branch of Research and Education]
[Includes correspondence from Francoise Matthes]
For Yosemite Files (Museum)
For: Ansel F. Hall, Chief Field Division of Education

**Series II: Subseries A: Box 2**


Folder 0013. Glacier Measurements - 1936 - by C.A. Harwell, 1936
*Berkeley Headquarters Copy - includes correspondence*

*For: Yosemite Museum includes black and white photographs*
*For: Yosemite Museum*
Folder 0017. Consolidation of Information on Measuring Stations For Future Glacier Expedition - M.E. Beatty, 1940 October, 1942 January

Folder 0018. Consolidation of Information on Measuring Stations For 1940 Glacier Expedition - M.E. Beatty, 1940


Folder 0020. Report of Glacier Studies: Lyell, Maclure, Dana, and Conness Glaciers - by C. Frank Brockman, 1942 September 27-October 4

Folder 0021. Report of Glacier Studies: Lyell, Maclure, Dana, and Conness Glaciers - by C. Frank Brockman, 1942 September 27-October 4


*Oversize blueprints: 22 x 10.5*
Series II: Subseries A: Box 3

*Oversize: 18 x 8, 22 x 10.5*
*Oversize: 22 x 10.5*
*Oversize: 22 x 10.5*
Folder 0029. 1951 Glacier Studies - by A.E. Harrison - Yosemite Region, 1951

*Oversize: 21 x 10.5*
*Oversize: 21 x 10.5*
*Library copy; Oversize: 21 x 10.5*
*Oversize: 21 x 10.5*
*Oversize: 21 x 10.5*
*Oversize: 21 x 13, 20.5 x 10*

Series II: Subseries A: Box 4

*Oversize: 22 x 12, 21 x 10.5*

*Oversize: 20.5 x 13, 20 x 10.5, 13 x 19, 13.5 x 10*
*Oversize: 13.5 x 10*
Oversize: 20.5 x 12.5
Prepared from the field notes of Sigismund J. Zachwieja; Oversize: 20.5 x 12.5, 20.5 x 10.5

Oversize: 20.5 x 12, 19 x 9.5
Oversize: 20.5 x 12, 19 x 9.5, 30 x 24
Oversize: 23 x 16, 22 x 12
Oversize: 23 x 16, 22 x 12

Series II: Subseries A: Box 5


Report prepared February 1, 1976 by Warren White

Series II: Subseries B: Lyell Glacier Comparison Profiles, 1931-1970

Series II: Subseries B: Box 1

Folder 0001. 551.31 Glacier Studies - Yosemite National Park Lyell Glacier Comparison Profiles, 1931-1957  
Oversize: 20 x 12, 22.5 x 12, 20.5 x 10.5, 21 x 10.5, 21 x 13, 22 x 10.5, 22 x 11.5, 20 x 10.5, 20 x 13, 20.5 x 12.5, 16 x 26, 16 x 11, 23 x 11.5
*Oversize: 20 x 12, 19 x 10, 13.5 x 21, 17.5 x 19, 20.5 x 12, 20 x 13, 20 x 11, 22 x 11, 22 x 11.5*

Folder 0003. Lyell Glacier - West Lobe - profile comparison graph, 1951-1970  
*Oversize: 19.5 x 10*

Folder 0004. Lyell Glacier - East Lobe - profile comparison graph, 1951-1970  
*Oversize: 20 x 15*

Series III: *Data, 1922-1974*


**Series III: Subseries A: Box 1**

Folder 0001. Field Notebook - Yosemite National Park - Glacier Studies, 1922-1939

Folder 0002. Yosemite National Park Glacier Survey - field notebook [glacier measurements, notes], 1935-1956

Folder 0003. Lyell Glacier - survey notes, 1941

*Includes oversize graphs on Lyell Glacier and Statistics on Lyell, Maclure, Dana, and Conness Glaciers*

Folder 0005. Field Journal

Folder 0006. Field Journal

Folder 0007. Measuring Note Cards: Lyell, Maclure, Kuna, Conness, Dragtooth, North Peak, Parker Creek, and Dana Glaciers, 1961-1969  
*Includes notes on photo stations*

Folder 0008. Field Notebook - Yosemite National Park Glacier Survey - food lists, 1973

Folder 0009. Field Journal - photo stations, undated

*Subseries B: Hydrology Data, 1968-1974*

**Series III: Subseries B: Box 1**

*Oversize: 4.5 inches wide with a diameter of .5 inches*

*Oversize: 4.5 inches wide with a diameter of 1 inch*
Folder 0003. Maclure Glacier Calif. Upper Temperature Record October 9, 1968 -
Oversize: 4.5 inches wide with a diameter of \( \frac{3}{4} \) inch
Folder 0004. Maclure Glacier Calif. Upper Temperature record October 3, 1969 to Oct
Oversize: 4.5 inches wide with a diameter of 1 inch


Series IV: Subseries A: Aerial Photographs, 1951-1969

Series IV: Subseries A: Box 1

Folder 0001. Glacier Survey Aerial Photographs, 1951-1958

Folder 0002. United States Geological Society Maclure Glacier Survey 1966 [Folder 1 of
3], 1955 October 27, 1966 December 21

Folder 0003. United States Geological Society Maclure Glacier Survey 1966 [Folder 2 of
3], 1955 October 27, 1966 December 21

Folder 0004. United States Geological Society Maclure Glacier Survey 1966 [Folder 3 of
3], 1955 October 27, 1966 December 21

Folder 0005. 1961 Glacier Survey - aerial photographs - Mt. Ritter, Horse and Cattle
Creek Glaciers, Dana, Conness, Sawtooth Ridge, Matterhorn, Lyell


Series IV: Subseries B: Box 1

Folder 0001. Glacier Photographs and Notes - Dana, Kuna, Koip, Gibbs, Lyell, Forsyth
Photographers: Bruce Raby, A. E. Harrison, Harry Jones, Anderson, D. H. Hubbard,
W.W. Bryant, U.S. Army, U.S.F.S; includes 1949 Glacier Survey plans
Folder 0002. Glacier Survey - unidentified negatives, circa 1940
7 acetate negatives
Folder 0003. Glaciers on Topography Map (copy) - negatives - Glacier Survey
Photographs - McCrary, circa 1940
5 acetate negatives
Folder 0004. 1947 Glacier Survey Photographs - by Stanley, 1947
7 acetate negatives; not used in report 1947
Folder 0005. Douglas Powell - pictures of Dana and Conness Glaciers, 1948 September
Folder 0006. Harry James pictures of Gibbs glacierette July 1949, 1949 July
Folder 0007. Photographs of Yosemite Glaciers - A.E. Harrison, 1949 September

Folder 0008. Yosemite Glacier Survey - glacier photographs [Folder 1 of 2], 1956, 1958

Folder 0009. Yosemite Glacier Survey - glacier photographs [Folder 2 of 2], 1956, 1958

Folder 0010. Glacier Photographs - Dana and Lyell Glaciers by Rocky Rockwell, 1969 October 8-10


Folder 0012. Photographs - glacier survey - not labeled, 1970 October 5-13

Folder 0013. Photographs - glacier survey - Kuna, 1970 October 9

Folder 0014. Photographs - glacier survey - South East Lyell, 1970 October 13

SEPARATED MATERIAL

Oversize

Oversize Box 1 - (18 1/2 x 24): 1 linear inch (123 items) [.01 LF]
Contains oversize graphs and maps from Series I-III, bulk from Series II.

Oversize Drawer D – 93: (11 items) [.01 LF]
Contains oversize maps from Series I and II.