



Smithsonian Institution Archives

Records, 1956-1975

Finding aid prepared by Smithsonian Institution Archives

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Washington, D.C.
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Collection Overview

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| Repository: | Smithsonian Institution Archives, Washington, D.C., osiaref@si.edu |
| Title: | Records |
| Identifier: | Record Unit 255 |
| Date: | 1956-1975 |
| Extent: | 24 cu. ft. (24 record storage boxes) |
| Creator:: | Smithsonian Astrophysical Observatory. Moonwatch Division |
| Language: | English |

Administrative Information

Preferred Citation

Smithsonian Institution Archives, Record Unit 255, Smithsonian Astrophysical Observatory.
Moonwatch Division, Records

Historical Note

The Moonwatch Division of the Smithsonian Astrophysical Observatory was created in 1956 as part of the Satellite Tracking Program established to track and photograph the artificial earth satellites to be launched during the International Geophysical Year, 1957-1958. The surprise launch of Sputnik in 1957 generated much enthusiasm for the satellite program. Amateur astronomers, often supported by local businesses and schools, formed groups of volunteers who manned rows of telescopes searching for satellites. The Moonwatch Division directed and instructed the observers, loaned them equipment, and tabulated the data collected. Scientists were named in other parts of the world to help establish Moonwatch teams in many foreign countries. Gradually many "teams" came to be composed of a single observer, highly skilled in satellite tracking and often affiliated with a local observatory or university. Until its termination in 1975, the Moonwatch Division coordinated this network of volunteers and amassed a total of nearly 400,000 observations of satellites. Directors of the Division included Armand N. Spitz, 1956-1957; Leon Campbell, Jr., 1957-1962; Richard C. Vanderburgh, 1962-1964; William P. Hirst, 1964-1968; and Albert Werner, 1968-1975.

The Volunteer Flight Officer Network (VFON) was established in 1963 by Denver Moonwatch team leader Herbert E. Roth to collect eyewitness reports of satellites and meteor sightings from airline pilots and other flight personnel. Roth was employed by United Air Lines, which agreed to support the project by providing printing and mailing funds. In 1965 the VFON became affiliated with Moonwatch, which advised Roth and assumed a part of the mailing expenses. In 1969 Moonwatch assumed complete administrative control of the VFON under a contract with the United States Air Force. Before its termination in 1975, the VFON had grown to include the employees of 118 airlines in 57 countries and had collected approximately 4200 observations. Roth was its sole director.

Introduction

This finding aid was digitized with funds generously provided by the Smithsonian Institution Women's Committee.

Descriptive Entry

These records document the history of the Moonwatch Division and the volunteer Flight Officer Network. They include the outgoing correspondence of Albert Werner, 1968-1975; general correspondence of the Moonwatch Division, 1957-1975; Moonwatch station files, 1956-1975, including correspondence and other data from American and foreign Moonwatch teams; Moonwatch administrative files, 1956-1975; Moonwatch project files, 1962-1973, including correspondence and reports on various comets, satellites, and other projects assigned to Moonwatch to track; the incoming and outgoing correspondence of Herbert E. Roth, 1966-1975; general correspondence of the VFON, 1969-1975; VFON airline files, 1963-1975, containing correspondence and sighting reports from member airlines; VFON administrative files, 1963-1975; Moonwatch and VFON newsletters and bulletins, 1956-1975; and a small number of slides, tapes, and movies.

Names and Subject Terms

This collection is indexed in the online catalog of the Smithsonian Institution under the following terms:

Subjects:

Astrophysical observatories
International Geophysical Year, 1957-1958

Types of Materials:

Audiotapes
Black-and-white photographs
Black-and-white transparencies
Clippings
Manuscripts
Motion pictures (visual works)

Names:

Campbell, Leon, Jr.
Hirst, William P.
Roth, Herbert E.
Smithsonian Astrophysical Observatory. Moonwatch Division. Volunteer Flight Officer Network
Smithsonian Astrophysical Observatory. Satellite Tracking Program
Spitz, Armand
Sputnik (Spacecraft)
United Air Lines, Inc.
United States. Air Force
Vanderburgh, Richard C.
Werner, Albert

Container Listing

Series 1: OUTGOING CORRESPONDENCE OF ALBERT WERNER, 1968-1975. ARRANGED CHRONOLOGICALLY.

This series consists of the official outgoing correspondence of Albert Werner in his capacity as Moonwatch director, 1968-1975. The related incoming material will be found in Series 2 and Series 3. The letters in this series are addressed primarily to Moonwatch observers, but also to the public, NASA officials, and astronomers around the world. Topics include communications, equipment, monetary matters, current projects, and tracking and reporting procedures.

Box 1

| | |
|-------------|-------------------------------------|
| Box 1 of 24 | Albert Werner correspondence, 1968. |
| Box 1 of 24 | Albert Werner correspondence, 1969. |
| Box 1 of 24 | Albert Werner correspondence, 1970. |
| Box 1 of 24 | Albert Werner correspondence, 1971. |
| Box 1 of 24 | Albert Werner correspondence, 1972. |
| Box 1 of 24 | Albert Werner correspondence, 1973. |
| Box 1 of 24 | Albert Werner correspondence, 1974. |
| Box 1 of 24 | Albert Werner correspondence, 1975. |

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Series 2: MOONWATCH CORRESPONDENCE, 1957-1975. ARRANGED ALPHABETICALLY.

This series consists of miscellaneous correspondence of the Moonwatch Division, 1957-1975. A separate file originally existed that contained many requests, written mainly in 1957 by young people, for information about Moonwatch. A few of these letters were retained as samples and incorporated into this series. The bulk of the correspondence is dated 1965-1975 and deals primarily with public inquiries from individuals, businesses, universities, and other groups. Topics include membership information and identification of sightings.

Box 1

Box 1 of 24

Correspondence, A - Y. (18 folders)

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Series 3: MOONWATCH STATION FILES, 1956-1975. ARRANGED ALPHABETICALLY.

This series consists of the files maintained for each Moonwatch team or station according to its location. Originally the records were divided into two series: those teams active at the close of the program in 1975 and those inactive. These two files were merged to facilitate reference. The stations in the United States are arranged alphabetically by city, followed by the foreign teams arranged by country or area and then by city. Included is correspondence between team leaders and Moonwatch staff and directors as well as correspondence between the directors and prominent astronomers who were named as coordinators in parts of Europe, South America, and Africa. Also included are reports, articles, clippings, worksheets, charts, and photographs.

Box 1

- Box 1 of 24 Abilene, Texas, 1956-1957.
- Box 1 of 24 Akron, Ohio, 1974-1975. Team of Paul Cahill.
- Box 1 of 24 Akron, Ohio, 1962. Team of Dewey Phares.

Box 2

- Box 2 of 24 Akron, Ohio, 1965-1972. Team of Harold Brock.
- Box 2 of 24 Alamogordo, New Mexico, 1957-1963. Includes clippings and photographs.
- Box 2 of 24 Albuquerque, New Mexico, 1958-1963. Team of Robert Swain.
- Box 2 of 24 Albuquerque, New Mexico, 1956-1963. Team of Violet Hefferan. Includes photographs.
- Box 2 of 24 Albuquerque, New Mexico, 1964-1972, 1974.
- Box 2 of 24 Albuquerque East, New Mexico, 1969-1973.
- Box 2 of 24 Alliance, Ohio, 1962.
- Box 2 of 24 Altaville, California, 1957-1960.
- Box 2 of 24 Amarillo, Texas, 1957-1960, 1962-1963.
- Box 2 of 24 Ames, Iowa, 1962, 1964-1967. Team of Percy Carr.
- Box 2 of 24 Ames, Iowa, 1962. Team of Raymond Callahan.
- Box 2 of 24 Anderson, Indiana, 1957.
- Box 2 of 24 Andover, New Hampshire, 1968-1969.
- Box 2 of 24 Arlington, Virginia, 1956, 1958-1960. Includes clippings and photographs.
- Box 2 of 24 Athens, Georgia, 1956-1958.

Box 2 of 24 Atlanta, Georgia, 1966-1974. Includes photographs.

Box 2 of 24 Atlantic City, New Jersey, 1962-1963.

Box 2 of 24 Austin, Texas, 1967-1975.

Box 2 of 24 Baltimore, Maryland, 1957-1962, 1964-1965.

Box 2 of 24 Bartlesville, Oklahoma, 1957-1960.

Box 2 of 24 Batavia, New York, 1962, 1964-1968.

Box 2 of 24 Bayside, New York, 1962.

Box 2 of 24 Biddeford, Maine, 1962, 1964.

Box 2 of 24 Big Spring, Texas, 1957-1959.

Box 2 of 24 Biloxi, Mississippi, 1957-1961. Includes clipping and photographs.

Box 2 of 24 Blacksburg, Virginia, 1962.

Box 2 of 24 Bloomington, Illinois, 1963-1966. Includes charts.

Box 2 of 24 Boise, Idaho, 1957-1960.

Box 2 of 24 Boulder, Colorado, 1966-1969, 1972-1973. Includes photographs.

Box 2 of 24 Bristol, Tennessee, 1957-1959, 1967.

Box 2 of 24 Bristol, Virginia, 1962-1963.

Box 2 of 24 Broderick, California, 1962-1963.

Box 2 of 24 Browning, Montana, 1962. Reports.

Box 2 of 24 Brownville, New York, 1962-1964.

Box 2 of 24 Bryan, Texas, 1956-1960.

Box 2 of 24 Bryn Athyn, Pennsylvania, 1957-1960.

Box 2 of 24 Buffalo Center, Iowa, 1962.

Box 2 of 24 Buffalo, New York, 1956-1960.

Box 2 of 24 Cambridge, Massachusetts, 1956-1958.

Box 2 of 24 Cambridge, Massachusetts, 1959-1961, 1963. Includes photographs.

Box 2 of 24 Canton, Ohio, 1966, 1969.

- Box 2 of 24 Carmichael, California, 1962-1963, 1966.
- Box 2 of 24 Cary, North Carolina, 1957-1958, 1962-1964. Includes photographs.
- Box 2 of 24 Castle Rock, Colorado, 1968-1972, 1974.
- Box 2 of 24 Chambersburg, Pennsylvania, 1956-1959. Includes clipping and photographs.
- Box 2 of 24 Chapel Hill, North Carolina, 1962. Team of Robert Melvin.
- Box 2 of 24 Chapel Hill, North Carolina, 1962. Team at the Morehead Planetarium.
- Box 2 of 24 Charlotte, North Carolina, 1956-1960.
- Box 2 of 24 Charlottesville, Virginia, 1962-1963.
- Box 2 of 24 Chatham, New Jersey, 1962-1965, 1967.
- Box 3
- Box 3 of 24 Chattanooga, Tennessee, 1956-1964.
- Box 3 of 24 Chattanooga, Tennessee, 1965-1970, 1972-1974.
- Box 3 of 24 Chevy Chase, Maryland, 1971-1972.
- Box 3 of 24 Chicago, Illinois, 1956-1965. Team of Rodney Faxon. Includes clippings and photographs.
- Box 3 of 24 Chicago, Illinois, 1957-1959. Team of James Caplan.
- Box 3 of 24 Chicago, Illinois, 1962. Team at the Adler Planetarium.
- Box 3 of 24 Chicago, Illinois, 1962-1964. Team of Stanley Wojciechowski.
- Box 3 of 24 Chicago, Illinois, 1962. Team of Arthur Orlich.
- Box 3 of 24 China Lake, California, 1957-1959.
- Box 3 of 24 China Lake, California, 1960-1964.
- Box 3 of 24 China Lake, California, 1965-1970. Includes photographs.
- Box 3 of 24 Cincinnati, Ohio, 1956-1964, 1966.
- Box 3 of 24 Clearwater, Florida, 1966-1967.
- Box 3 of 24 Cleveland, Ohio, 1956-1962, 1964-1965. Team of Thomas Petrie.
- Box 3 of 24 Cleveland, Ohio, 1962-1970. Team of Dan Snow.

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| Box 3 of 24 | Clinton, Mississippi, 1957-1958. |
| Box 3 of 24 | Cobleskill, New York, 1962-1963. |
| Box 3 of 24 | Colorado Springs, Colorado, 1967, 1969. |
| Box 3 of 24 | Columbus, New Mexico, 1964-1967, 1969. |
| Box 3 of 24 | Columbus, Ohio, 1956-1962, 1965-1967. Includes photographs. |
| Box 3 of 24 | Conshohocken, Pennsylvania, 1963. |
| Box 3 of 24 | Cortland, New York, 1962-1963. |
| Box 3 of 24 | Creston, Iowa, 1962. |
| Box 3 of 24 | Culver City, California, 1957-1960. |
| Box 3 of 24 | Cupertino, California, 1970. Includes photographs. |
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| Box 3 of 24 | Dallas, Texas, 1957-1960. |
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| Box 3 of 24 | Danville, Illinois, 1962-1965. Team of Richard Schroeder. |
| Box 3 of 24 | Davenport, Iowa, 1963-1964. |
| Box 3 of 24 | Dayton, Ohio, 1957-1965. Includes photographs. Team of Richard C. Vanderburgh, Moonwatch director, 1962-1964. |
| Box 3 of 24 | Dayton, Ohio, 1966-1969, 1971. |
| Box 3 of 24 | Dayton, Ohio, 1962. Team of Ron Cornwell. |
| Box 3 of 24 | Decatur, Georgia, 1956-1960. |
| Box 3 of 24 | Denver, Colorado, 1956-1961. |
| Box 3 of 24 | Denver, Colorado, 1962-1965. Team of Herbert E. Roth, Volunteer Flight Officer Network Director, 1963-1975. Includes photographs. |
| Box 3 of 24 | Denver, Colorado, 1966-1969. |

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Box 4 of 24 Des Moines, Iowa, 1956-1957. Includes photographs.

Box 4 of 24 Detroit, Michigan, 1957-1960.

Box 4 of 24 Dodson, Texas, 1957-1958.

Box 4 of 24 Dover, New Jersey, 1956-1960. Includes photographs.

Box 4 of 24 Edinburg, Texas, 1956-1961.

Box 4 of 24 Edinburg, Texas, 1962-1965.

Box 4 of 24 Edinburg, Texas, 1966-1968, 1970-1971, 1975. Includes photographs.

Box 4 of 24 El Paso, Texas, 1958-1960.

Box 4 of 24 Elyria, Ohio, 1962-1963.

Box 4 of 24 Eureka, Illinois, 1962.

Box 4 of 24 Evanston, Illinois, 1960-1963, 1965. Includes photographs.

Box 4 of 24 Evansville, Indiana, 1957-1960.

Box 4 of 24 Falls Church, Virginia, 1957-1963, 1967. Includes photograph.

Box 4 of 24 Flint, Michigan, 1962-1964.

Box 4 of 24 Floydada, Texas, 1957.

Box 4 of 24 Ft. Dodge, Iowa, 1963-1965.

Box 4 of 24 Ft. Lauderdale, Florida, 1966-1967.

Box 4 of 24 Fort Worth, Texas, 1957-1961. Team of Dr. Charles Sehested.

Box 4 of 24 Fort Worth, Texas, 1962-1965, 1967-1974.

Box 4 of 24 Fort Worth, Texas, 1957-1960. Team of Miss Charlie Noble. Includes clippings.

Box 4 of 24 Frankfort, Kentucky, 1962-1965, 1967-1968, 1971.

Box 4 of 24 Fremont, Ohio, 1962-1963.

Box 4 of 24 Galena, Alaska, 1959-1961.

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Box 4 of 24 Haddam, Connecticut, 1962-1967, 1973-1975.

Box 4 of 24 Hamdon, Connecticut, 1963-1966.

Box 4 of 24 Hammond, Indiana, 1962-1963, 1965.

Box 4 of 24 Hapeville, Georgia, 1956-1960, 1962-1964.

Box 4 of 24 Hapeville, Georgia, 1957-1962. Robert H. Granthum incoming correspondence.

Box 4 of 24 Hapeville, Georgia, "Space Hounds" preamble by Forrest Park, GA, students.

Box 4 of 24 Hapeville, Georgia, 1958-1959. Miscellaneous messages (incoming Robert H. Granthum).

Box 4 of 24 Harrisburg, Pennsylvania, 1957, 1959.

Box 4 of 24 Harrisonburg, Virginia, 1956-1960.

Box 4 of 24 Hartville, Ohio, 1962-1966, 1968-1974. Includes photographs.

Box 4 of 24 Harvard, Massachusetts, 1962-1963, 1965.

Box 4 of 24 Honolulu, Hawaii, 1956-1960. Includes photographs.

Box 4 of 24 Houston, Texas, 1971-1973.

Box 4 of 24 Huntsville, Alabama, 1957.

Box 4 of 24 Hyde Park, Massachusetts, 1967-1968.

Box 4 of 24 Idaho Falls, Idaho, 1956-1960.

Box 4 of 24 Indianapolis, Indiana, 1957-1959.

Box 4 of 24 Ithaca, New York, 1962-1965, 1968. Team of Paul Kirchner.

Box 4 of 24 Ithaca, New York, 1962-1963, 1965-1966, 1968. Team of Gale Sprague. Includes photograph.

Box 4 of 24 Jacksonville, Florida, 1962-1965, 1969.

Box 4 of 24 Jersey City, New Jersey, 1956.

Box 4 of 24 Johannesburg, Michigan, 1962-1964.

Box 4 of 24 Kansas City, Missouri, 1956-1968. Includes photographs. Team of D. D. Clarke.

Box 4 of 24 Kansas City, Missouri, 1963-1964. Team of Brook Sandford.

Box 4 of 24 Lake Forest, Illinois, 1966-1969.

Box 4 of 24 Lake Hiawatha, New Jersey, 1962-1963.

Box 4 of 24 Lakeland, Florida, 1956-1957.

Box 4 of 24 Lansing, Michigan, 1956-1961. Includes clippings.

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Box 5 of 24 Las Cruces, New Mexico, 1957-1964.

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Box 5 of 24 Lawton, Oklahoma, 1957-1963.

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Box 5 of 24 Lincoln, Nebraska, 1956-1960.

Box 5 of 24 Lockport, New York, 1966.

Box 5 of 24 Los Alamos, New Mexico, 1956-1960, 1962.

Box 5 of 24 Los Angeles, California, 1957-1960. Team of Clarke Harris.

Box 5 of 24 Los Altos, California, 1956-1959.

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Box 5 of 24 Madison, Wisconsin, 1960-1963, 1965, 1967-1968. Team of Morton Newcomb.

Box 5 of 24 Madison, Wisconsin, 1962-1963. Team of George Rippen.

Box 5 of 24 Madison, Wisconsin, 1957-1958. Team of Stephen Robinson.

Box 5 of 24 Manhattan, Kansas, 1957-1960. Includes photograph.

Box 5 of 24 Massilon, Ohio, 1962, 1966-1967.

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| Box 5 of 24 | Milwaukee, Wisconsin, 1956-1962. Team of Mr. Edward Halbach. Includes material on the recovery of Sputnik 4 fragments. |
| Box 5 of 24 | Milwaukee, Wisconsin, 1963-1965. Includes material on the recovery of Sputnik 4 fragments. |
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Box 5 of 24 Oceanport, New Jersey, 1966-1975. Includes photographs.

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Box 6 of 24 Palestine, Texas, 1963, 1965.

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Box 6 of 24 Palmyra, Missouri, 1962-1966, 1970.

Box 6 of 24 Panama City, Florida, 1957-1960, 1962, 1965-1975. Includes photographs.

Box 6 of 24 Pasadena, California, 1963-1965, 1967.

Box 6 of 24 Paterson, New Jersey, 1957-1971. Team of Philip Del Vecchio.

Box 6 of 24 Paterson, New Jersey, 1962-1963. Team of Thomas Michelli.

Box 6 of 24 Paterson, New Jersey, 1962-1963. Team of Robert Mazzarone.

Box 6 of 24 Pawtucket, Rhode Island, 1962.

Box 6 of 24 Pendleton, Oregon, 1962-1966, 1969-1970. Includes photographs.

Box 6 of 24 Peoria, Illinois, 1956-1960.

Box 6 of 24 Philadelphia, Pennsylvania, 1957-1960. Includes photographs and charts.
Team of Edwin Bailey.

Box 6 of 24 Philadelphia, Pennsylvania, 1963-1964, 1966. Team of Leonard Sattler.

Box 6 of 24 Phoenix, Arizona, 1956-1959. Team of Amos Hoff.

Box 6 of 24 Phoenix, Arizona, 1960-1964. Team of R. K. Reynolds.

Box 6 of 24 Phoenix, Arizona, 1965-1973, 1975.

Box 6 of 24 Pittsburgh, Pennsylvania, 1963. Team of Anthony Gaglierd.

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- Box 6 of 24 Pittsburgh, Pennsylvania, 1959-1962.
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- Box 6 of 24 Portland, Oregon, 1957-1963, 1965. Includes photographs.
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- Box 6 of 24 Randolph Air Force Base, Texas, 1957-1961.
- Box 6 of 24 Rantoul, Illinois, 1957-1960. Includes photographs.
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- Box 6 of 24 Reno, Nevada, 1958-1959.
- Box 6 of 24 Roanoke, Virginia, 1956-1964. Includes photographs.
- Box 6 of 24 Rochester, New York, 1957-1960.
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- Box 7 of 24 St. Cloud, Minnesota, 1964.
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photographs.
- Box 7 of 24 St. Petersburg, Florida, 1957-1961.

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- Box 7 of 24 Salem, Illinois, 1957-1960.
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- Box 7 of 24 San Antonio, Texas, 1960-1965. Team of Charles Burmeister.
- Box 7 of 24 San Antonio, Texas, 1957-1963. Team of Paul Seabase and Fred Ball.
- Box 7 of 24 San Antonio, Texas, 1964-1970. Team of Paul Maley and Fred Ball.
- Box 7 of 24 San Antonio, Texas, 1957-1958. Team of Major F. W. Miller.
- Box 7 of 24 San Diego, California, 1957-1963. Team of Charles Johnson.
- Box 7 of 24 San Diego, California, 1962-1964. Team of T. M. Hemphill.
- Box 7 of 24 San Francisco, California, 1956-1960.
- Box 7 of 24 San Jose, California, 1957-1969, 1972.
- Box 7 of 24 San Mateo, California, 1962.
- Box 7 of 24 Santa Barbara, California, 1957-1959.
- Box 7 of 24 Santa Monica, California, 1957-1960. Team of Richard Mayhew.
- Box 7 of 24 Santa Monica, California, 1963. Team of Dr. Gerhard Schilling.
- Box 7 of 24 Santa Monica, California, 1962-1966. Team of Dr. Carl Gazley.
- Box 7 of 24 Sayerville, New Jersey, 1963.
- Box 7 of 24 Schenectady, New York, 1957-1960.
- Box 7 of 24 Seattle, Washington, 1962. Team of Patricia Jones.
- Box 7 of 24 Seattle, Washington, 1962-1967. Team of Gary Peterson.
- Box 7 of 24 Sedallia, Missouri, 1957.
- Box 7 of 24 Seguin, Texas, 1959-1960.
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- Box 8 of 24 Silver City, New Mexico, 1956-1961, 1969, 1971-1975.

Box 8 of 24 Silver Spring, Maryland, 1962. Team of Albert Syeles.

Box 8 of 24 Silver Spring, Maryland, 1957-1960, 1962-1963, 1965-1966, 1968. Team of Robert Wright.

Box 8 of 24 South Lansing, New York, 1962-1964.

Box 8 of 24 Spokane, Washington, 1957-1960.

Box 8 of 24 State College, Pennsylvania, 1956-1961.

Box 8 of 24 State College, Pennsylvania, 1962-1965, 1967-1972, 1974. Includes photographs.

Box 8 of 24 Stockton, California, 1956-1961.

Box 8 of 24 Strongsville, Ohio, 1963.

Box 8 of 24 Struthers, Ohio, 1956-1959.

Box 8 of 24 Sylacauga, Alabama, 1956-1960.

Box 8 of 24 Tempe, Arizona, 1958-1959.

Box 8 of 24 Terre Haute, Indiana, 1957-1958.

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Box 8 of 24 Terre Haute, Indiana, 1961-1962.

Box 8 of 24 Terre Haute, Indiana, 1963-1965.

Box 8 of 24 Terre Haute, Indiana. Photographs.

Box 8 of 24 Topango, California, 1962.

Box 8 of 24 Tucson, Arizona, 1957-1963.

Box 8 of 24 Tulsa, Oklahoma, 1962-1963. Team of Dan White.

Box 8 of 24 Tulsa, Oklahoma, 1962-1965. Team of Louis Desjardins.

Box 8 of 24 Tulsa, Oklahoma, 1956-1959. Team of James Westphal.

Box 8 of 24 Tullahoma, Tennessee, 1957-1958.

Box 8 of 24 Tyndall Air Force Base, Florida, 1962.

Box 8 of 24 Urbana, Illinois, 1962-1963, 1965, 1968.

Box 8 of 24 Valparaiso, Indiana, 1962-1963, 1965.

- Box 8 of 24 Van Nuys, California, 1957-1958.
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- Box 8 of 24 Waco, Texas, 1957-1959. Team of George Miles.
- Box 8 of 24 Waco, Texas, 1957-1959. Team of A. J. Griffin.
- Box 8 of 24 Walnut Creek, California, 1957-1959.
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- Box 8 of 24 Warren, Ohio, 1956.
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- Box 9 of 24 Washington, D.C., 1956-1959. Includes photographs.
- Box 9 of 24 West Jefferson, North Carolina, 1963-1964.
- Box 9 of 24 Weston, West Virginia, 1963-1965.
- Box 9 of 24 West Palm Beach, Florida, 1957-1961. Team of Albert Werner, Moonwatch director, 1968-1975.
- Box 9 of 24 West Palm Beach, Florida, 1962-1965.
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- Box 9 of 24 Wichita, Kansas, 1956-1960.
- Box 9 of 24 Wichita, Kansas, 1961-1965.
- Box 9 of 24 Wichita, Kansas, 1966-1970. Includes photographs.
- Box 9 of 24 Wichita Falls, Texas, 1958-1960.
- Box 9 of 24 Wilmore, Kentucky, 1957-1959.
- Box 9 of 24 Woodbridge, Connecticut, 1962-1963, 1966-1972.
- Box 9 of 24 Wooster, Ohio, 1962-1963.
- Box 9 of 24 Yankton, South Dakota, 1956-1960.

- Box 9 of 24 Yuma, Arizona, 1965. Team of Gary Emerson.
- Box 9 of 24 Yuma, Arizona, 1957-1960. Team of Kevin Keough. Includes photographs.
- Box 9 of 24 Foreign correspondence, 1956-1961. Primarily inquiries.
- Box 9 of 24 Algeria: Bouzareah, 1969-1970. Includes photographs.
- Box 9 of 24 Argentina: general correspondence, 1956-1958.
- Box 9 of 24 Argentina: Teofilo Tabanera correspondence, 1956-1958. Tabanera was vice president of the International Astronautical Federation and a prime contact for Moonwatch in South America. Included are translations into Spanish of Moonwatch bulletins and lists of possible volunteers.
- Box 9 of 24 Argentina: Buenos Aires, 1956-1960, 1963-1967. Includes correspondence with three different teams.
- Box 9 of 24 Argentina: Cordoba, 1957-1960, 1963-1964, 1966-1967.
- Box 9 of 24 Argentina: Merlo, 1957-1960.
- Box 9 of 24 Argentina: Mendoza, 1965-1973.
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- Box 9 of 24 Austria: Hinterbruehl, 1962-1965, 1967-1969, 1973.
- Box 9 of 24 Austria: Klosterneuburg, 1965-1974. Includes photographs.
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- Box 9 of 24 Australia: general correspondence, 1956-1959.
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Box 11 of 24 Canada: Richmond, 1962-1965, 1967-1972. Team of Martin Potter.

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Box 11 of 24 Canada: Toronto, 1959-1964. Team of Archie Ostrander.

Box 11 of 24 Canada: Toronto, 1962-1975. Team of John Langford.

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Box 11 of 24 Canada: Winnipeg, 1960-1962, 1964-1965, 1967-1972. Team of Paul Moffat.

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- Box 11 of 24 China: general correspondence, 1957.
- Box 11 of 24 Colombia, 1956-1958, 1962. Includes correspondence with two teams.
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- Box 11 of 24 Curacao, 1957-1961.
- Box 11 of 24 Denmark: Copenhagen, 1962-1975.
- Box 11 of 24 Ecuador: Quito, 1956-1960.
- Box 11 of 24 Egypt: Helwan, 1956-1957.
- Box 11 of 24 England: Correspondence with the coordinator, 1956-1964. The British Interplanetary Society, led by Mr. L. J. Carter, its secretary, acted as coordinator in the organization and operation of Moonwatch teams in England.
- Box 11 of 24 England: general correspondence, 1956-1957. Primarily inquiries.
- Box 11 of 24 England: Aldershot, 1967-1970, 1972.
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- Box 11 of 24 England: Bristol, 1959-1967. Includes photographs.
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- Box 12 of 24 Germany: Bautzen, 1964-1968.
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- Box 12 of 24 Germany: Bochum, 1958-1972, 1974. Includes photographs and reports.
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- Box 12 of 24 Germany: Munich, 1958-1960.

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Box 12 of 24 Germany: Schwerin, 1957, 1964-1969, 1971-1972. Includes brochure and photographs.

Box 12 of 24 Germany: Stade/Elbe, 1969-1972. Primarily observation reports.

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Box 12 of 24 Ice Island: T-3 and Charlie, 1959-1960.

Box 12 of 24 India: general correspondence, 1956-1958, 1962.

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Box 13 of 24 Romania: Bucharest, 1967-1968, 1970-1972, 1975.

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Box 13 of 24 Scotland: Ashley, 1967-1969, 1971.

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- Box 13 of 24 Scotland: Elphard, 1966-1967.
- Box 13 of 24 Scotland: Glasgow, 1959-1962, 1964.
- Box 13 of 24 Scotland: Willowbrae, 1966-1969, 1972-1975.
- Box 13 of 24 South Africa: general correspondence, 1956-1957. Includes inquiries about Moonwatch, a report on the importance of South Africa as an observing location, and correspondence with Dr. David Evans, the first coordinator.
- Box 13 of 24 South Africa: correspondence with the coordinators, 1959-1961.
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- Box 14 of 24 South Africa: correspondence with the coordinators, 1962-1964, 1966, 1969.
- Box 14 of 24 South Africa: Bloemfontein, 1957-1963. Includes reports and photographs.
- Box 14 of 24 South Africa: Cape Town, 1957-1964. Includes much correspondence with William P. Hirst, Moonwatch director, 1964-1968, who was the leader of this team until 1963.
- Box 14 of 24 South Africa: Cape Town, 1965-1975. The bulk of this correspondence is between Albert Werner and Hirst, who retired to Cape Town and became an active observer again.
- Box 14 of 24 South Africa: Colbyn, 1968-1969.
- Box 14 of 24 South Africa: Durban, 1961-1964.
- Box 14 of 24 South Africa: Escombe, 1967-1969.
- Box 14 of 24 South Africa: Johannesburg, 1969-1970, 1974. Team of Gregory Roberts.
- Box 14 of 24 South Africa: Johannesburg II, 1973. Team of R. Lake.
- Box 14 of 24 South Africa: Johannesburg, 1957-1959. Team of Dr. Charles N. Williams.
- Box 14 of 24 South Africa: Kenilworth, 1966-1969.
- Box 14 of 24 South Africa: Murrayfield, 1966-1968, 1973.
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- Box 14 of 24 South Africa: Pretoria, 1966-1969, 1971-1972, 1974. Includes photographs.
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Series 4: MOONWATCH ADMINISTRATIVE FILES, 1956-1975. ARRANGED ALPHABETICALLY.

This series consists of an administrative subject file kept by the Moonwatch Division. The file includes correspondence, memoranda, lists, reports, bulletins, forms, charts, maps, and photographs.

Box 14

- Box 14 of 24 Address lists, 1973, and undated.
- Box 14 of 24 American Meteorite Laboratory, 1965. Includes correspondence between William P. Hirst, Moonwatch director, and Glenn I. Huss, laboratory director, in addition to questionnaires concerning meteorites.
- Box 14 of 24 American Meteor Society, 1968, 1970-1975. Includes correspondence between Albert Werner and Professor Charles P. Olivier, director emeritus; meteor reports; newsletters and bulletins.
- Box 14 of 24 Awards: correspondence and lists, 1974-1975. Includes list of Moonwatch volunteers who received awards, an article concerning Moonwatch volunteers, sample of award letter and certificates, and correspondence.
- Box 14 of 24 Awards: registration forms, 1974.
- Box 14 of 24 Blue bulletin: drafts and notes, 1963. Articles by observers on various topics concerning Moonwatch.
- Box 14 of 24 Budget, 1960-1961, 1963-1970, 1974. Includes memoranda and cost summaries.
- Box 14 of 24 Center for Short-lived Phenomena, 1968-1969. Includes news releases, Apollo 8 schedule, and form letters written by Robert Citron, Project Administrator.
- Box 14 of 24 Central Bureau for Astronomical Telegrams, 1966, 1968-1969, 1971-1972. Includes annual report and circulars issued by the Bureau.
- Box 14 of 24 Charts: North Polar Sequence and photographs, 1945; Spherical Diagrams, 1955; Satellite Apparent Position Calculator, 1958; Messier Objects Chart, 1966; Meridional Stereographic Projection Charts, undated; Flow Chart for EPHSIX, undated.
- Box 14 of 24 COSPAR (Committee on Space Research) correspondence, 1963, 1966-1969, 1972, 1974. Includes memoranda, lists of stations, and COSPAR code booklet.
- Box 14 of 24 Communications, 1966-1968. Includes memoranda, report, and bulletin.
- Box 14 of 24 Computer, 1965, 1967-1969. Includes memoranda and code explanation.
- Box 14 of 24 Draft of Moonwatch manual, 1963, and undated.

- Box 14 of 24 Ephemeris VI: original instructions, 1972-1974. Instruction booklet and correspondence.
- Box 14 of 24 Equipment, 1964, 1966-1970, 1973.
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- Box 15 of 24 Equipment inventories, 1965.
- Box 15 of 24 Evaluation forms, 1958.
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- Box 15 of 24 Grants, 1960, 1964-1971. Includes correspondence and semiannual Progress Reports.
- Box 15 of 24 Graph method of recording and checking Moonwatch observations, 1959-1960.
- Box 15 of 24 Index to Moonwatch newsletters, volumes XIII to XVI, undated.
- Box 15 of 24 Instructions for observers, 1962-1963, 1966, 1968, and undated.
- Box 15 of 24 Instructions and information with incomplete forms, undated.
- Box 15 of 24 Internal memoranda, 1961, 1966-1973, and undated.
- Box 15 of 24 Laser observations, 1965, 1967, 1970.
- Box 15 of 24 Letter for Moonwatch history, 1958.
- Box 15 of 24 Maintenance of government property.
- Box 15 of 24 Manufacturing procedures: Alt-Az mount and reticles, 1966.
- Box 15 of 24 Map of Moonwatch and Baker-Nunn sites.
- Box 15 of 24 Maps showing locations of Moonwatch stations, B-L.
- Box 15 of 24 Maps showing locations of Moonwatch stations, M-R.
- Box 15 of 24 Maps showing locations of Moonwatch stations, S-W.
- Box 15 of 24 Monthly re-entry reports, 1963-1969.
- Box 15 of 24 Moonwatch Technical Bulletins, 1957-1963, 1964, 1966-1968. (2 folders)
- Box 15 of 24 NASA: miscellaneous correspondence, 1969-1973.
- Box 15 of 24 NORAD (North American Air Defense Command): Ent Air Force Base: Satellite elements, 1969, 1972-1973.

- Box 15 of 24 NORAD: miscellaneous correspondence, 1956, 1966-1975.
- Box 15 of 24 NORAD: reports of decays, 1965-1969.
- Box 15 of 24 Observatory registration forms.
- Box 15 of 24 Office for Satellite Scatter Coordination.
- Box 15 of 24 Personnel, 1966-1969, 1971-1972.
- Box 15 of 24 Questionnaires for Moonwatch history.
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- Box 16 of 24 Reports and papers, 1962-1969.
- Box 16 of 24 Satellite magnitudes.
- Box 16 of 24 Satellite photometry.
- Box 16 of 24 STADAD (Satellite Tracking and Data Acquisition Department) memos, 1966-1969.
- Box 16 of 24 STP (Satellite Tracking Program) memos, 1967, 1969.
- Box 16 of 24 Space decay graph, 1957-1968.
- Box 16 of 24 Special Bulletins. Instructions for observers that were part of the Moonwatch manual.
- Box 16 of 24 Standard instructions and procedures.
- Box 16 of 24 Standing Instructions: Administrative (S.I.A.) bulletins.
- Box 16 of 24 Station coordinates file, undated. Forms showing the latitude and longitude for each site.
- Box 16 of 24 Status reports, 1965-1970. Periodic reports concerning the number of satellite observations made.
- Box 16 of 24 Team histories, A-F.
- Box 16 of 24 Team histories, I-T.
- Box 16 of 24 Team newsletters.
- Box 16 of 24 Team questionnaires, 1958. A-L.
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| Box 16 of 24 | Telescope and camera-size questionnaires, 1966. |
| Box 16 of 24 | Telescope diagram, undated. |
| Box 16 of 24 | Termination of Moonwatch, 1975. |
| Box 16 of 24 | Test Alert #1, May 1957. Notes. Includes map, photographs, instructions, address lists, and rough notes concerning the first test of Moonwatch teams. |

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| Box 17 of 24 | Test Alert #1, May 1957. A-K. Reports from the teams on their performance during the test. |
| Box 17 of 24 | Test Alert #1, May 1957. L-Y. |
| Box 17 of 24 | Test Alert #2, July 1957. Notes. Includes address lists and rough notes on the second alert. |
| Box 17 of 24 | Test Alert #2, July 1957. A-D. Responses on team performances. |
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| Box 17 of 24 | Unidentified photographs. (3 folders) |
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Series 5: MOONWATCH PROJECT FILES, 1962-1973. ARRANGED ALPHABETICALLY.

These files consist of correspondence, TWX bulletins, reports, and photographs of some of the various satellites and rockets assigned to Moonwatch to track. In many cases the records include only TWX bulletins and are thus incomplete. Of note are the records pertaining to Sputnik 4, the Russian satellite that scattered fragments in Wisconsin upon its re-entry in 1962.

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| Box 17 of 24 | Apollo 12, 1969-1970. Includes correspondence and observation accounts. |
| Box 17 of 24 | Apollo 13, 1970. Includes correspondence and photographs. |
| Box 17 of 24 | Apollo 14, 1971. Includes correspondence, reports, and photographs. |
| Box 17 of 24 | Apollo 14, S IV B Lunar Impact Project, 1971. |
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| Box 17 of 24 | Barium Ion Cloud Project, 1971. Correspondence. |
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| Box 17 of 24 | Barium Ion Cloud Project. TWX bulletins. |
| Box 17 of 24 | Bellcomm, Inc., 1969-1970. Reports on Apollo tracking. |
| Box 17 of 24 | Centaur 3, 1964. |
| Box 17 of 24 | Comet White, 1970. |
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Box 18 of 24 Echo C, 1964.

Box 18 of 24 1960 Epsilon, 1962.

Box 18 of 24 1962 Eta 3, 1962.

Box 18 of 24 Extreme Altitude Clouds, 1973.

Box 18 of 24 Gemini-Titan, 1964.

Box 18 of 24 1968 Hellos. Photographs.

Box 18 of 24 Infrasonic Unknowns: 120 Seconds or less, 1965, 1968.

Box 18 of 24 Infrasonic Unknowns: Long Duration, 1968.

Box 18 of 24 Jupiter's Moons Occultation Project, 1973.

Box 18 of 24 Kohoutek, 1973.

Box 18 of 24 Mercury-Atlas (MA-9), 1963.

Box 18 of 24 Miscellaneous projects.

Box 18 of 24 NORAD Decay Predictions, 1964.

Box 18 of 24 NORAD Decay Predictions, 1965.

Box 18 of 24 NORAD Decay Predictions, 1966.

Box 18 of 24 Re-entry 73.

Box 18 of 24 Salyut, 1973.

Box 18 of 24 Saturn 5, 1963-1964.

Box 18 of 24 Saturn 6, 1964.

Box 18 of 24 Saturn 7, 1964.

Box 18 of 24 Skylab, 1972-1973.

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| Box 18 of 24 | Sputnik 4, 1962. Correspondence and observations. |
| Box 18 of 24 | Sputnik 4. Mailing lists, instructions, TWX bulletins. |
| Box 18 of 24 | Sputnik 4. Reports, articles, clippings, photographs. |
| Box 18 of 24 | Starlette, 1974. |
| Box 18 of 24 | 1962 Theta, 1964. |
| Box 18 of 24 | Two Line Elements Test, 1973. |
| Box 18 of 24 | United Kingdom 4 (UK 4), 1972. |
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Series 6: HERBERT E. ROTH CORRESPONDENCE, 1966-1975. INCOMING AND OUTGOING. ARRANGED CHRONOLOGICALLY.

This series consists of the incoming and outgoing correspondence of Herbert E. Roth in his capacity as director of the Volunteer Flight Officer Network (VFON), 1966-1975. Roth material concerning his Denver Moonwatch station can be found in Series 2; correspondence with VFON member airlines is in Series 8. Most of this correspondence is with William P. Hirst and Albert Werner. Topics include the scope and funding of the VFON, supplies and equipment, disposition of sighting reports, and other matters of VFON operation.

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| Box 18 of 24 | Herbert E. Roth correspondence, 1966. |
| Box 18 of 24 | Herbert E. Roth correspondence, 1967. |
| Box 18 of 24 | Herbert E. Roth correspondence, 1968. Includes a controversy between Roth and Hirst regarding the purpose of the VFON. |
| Box 18 of 24 | Herbert E. Roth correspondence, 1969. Includes Roth's outline of the procedures followed in processing pilot reports. |
| Box 18 of 24 | Herbert E. Roth correspondence, 1970-1971. |
| Box 18 of 24 | Herbert E. Roth correspondence, 1972. Includes a letter of March 23, 1972, in which Roth details the history of the VFON. |
| Box 18 of 24 | Herbert E. Roth correspondence, 1973. |
| Box 18 of 24 | Herbert E. Roth correspondence, 1974-1975. |

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Series 7: VOLUNTEER FLIGHT OFFICER NETWORK MISCELLANEOUS CORRESPONDENCE, 1969-1975. ARRANGED ALPHABETICALLY.

This file consists of miscellaneous correspondence of the VFON. Correspondents include Herbert E. Roth, Albert Werner, various astronomers, and the public. Topics include newsletter requests, address changes, satellite information, and reports of unusual sightings.

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VFON miscellaneous correspondence, A-Z.

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Series 8: VFON AIRLINE FILES, 1963-1975. ARRANGED ALPHABETICALLY.

This series consists of the files maintained for each member airline in the VFON, correspondence with airlines that refused to join, and the approximately 4200 sighting reports submitted to the VFON. The sighting or pilot reports were numbered by Roth as they were received and marked with the name of the submitting airline. Some reports were filed according to airline, some according to the type of the sighting (satellite re-entry, meteor, unprocessed, or other), and some in numerical groups. Other categories included ground sightings and reports from unidentified airlines. To facilitate reference, most of the reports have been placed in the files of the airlines where possible and separated by the nature of the sighting. Although the majority of the early reports (1963-1968) are presumably from United Air Lines personnel, they are arranged chronologically here after the airline files. Each folder also contains Roth's correspondence with the airline regarding its membership, acknowledgments of reports, and discussions of unusual sightings.

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- Box 18 of 24 Aadastra Airways, 1968.
- Box 18 of 24 Aerial Agriculture Pty., Limited, 1967.

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This series consists of an administrative subject file maintained at Moonwatch Division for the VFON and includes correspondence, memoranda, lists, reports, form letters, and worksheets.

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Series 10: NEWSLETTERS AND BULLETINS, 1956-1975.

This series consists of three groups of publications produced at SAO for Moonwatch and VFON observers. It includes the Bulletin for Visual Observers of Satellites, 1956-1963; Moonwatch Newsletter, 1958-1975; and VFON Satellite Re-entry Newsletter, 1973-1975.

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Series 11: SLIDES, TAPES, AND MOVIES, 1959, 1966, AND UNDATED.

This series consists primarily of a small number of slides, some of which are unidentified. Arrangement is alphabetical by the name of the Moonwatch station that submitted each slide. Subjects include team members, equipment, Sputnik 4, and views of satellite transits or comets. Also included are two unidentified movies and three tapes, which contain the addresses heard at a meeting on November 3, 1966, of Smithsonian and SAO scientists.

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