

AERIAL PHOTOGRAPH COLLECTION

Professor Harold R. Wanless, Department of Geology, University of Illinois

(EDITORIAL NOTE. A few pages of Prof. Wanless' collection are reproduced here to acquaint the readers with his monumental work. He has accumulated this collection in connection with teaching photogeology and now has more than 5,000 aerial photographs selected for their suitability for instruction in the various geologic features. He was authorized by Dr. David M. Delo, executive director of the American Geological Institute, to prepare for distribution to schools such a list of outstanding aerial photographs for use in the instruction of geology, and was to cooperate with other geologists who had assembled similar collections. He does not claim that all of the examples are the best in existence, but feels that they are entirely adequate illustrations of nearly the full array of geologic features to be found in this country. The tabulation is self explanatory.)

THE Department of Geology, University of Illinois, has accumulated during the past eight years a collection of more than 5,000 different aerial photographs and several hundred photo index sheets and maps. The accompanying subject index has been prepared to enable potential users of the collection to find excellent examples of features desired for classroom teaching or research with the minimum of difficulty. The list is essentially complete for the present date, May 15, 1950, but additional photographs and index sheets are on order and will be ordered from time to time. Supplements to this index will be issued at intervals and may be filed with it.

The photographs and index sheets were secured from many different government and private agencies which are shown in the lists by the following abbreviations:

AF	Air Forces
AEC	Army Engineer Corps
FS	Forest Service, U. S. Department of Agriculture
PMA	Production and Marketing Administration (formerly Agricultural Adjustment Administration), U. S. Department of Agriculture
SCS	Soil Conservation Service, U. S. Department of Agriculture
C&GS	Coast and Geodetic Survey, U. S. Department of Commerce
USGS	Geological Survey, U. S. Department of the Interior
TVA	Tennessee Valley Authority
RCAF	Royal Canadian Air Force
Fairchild	Fairchild Aerial Surveys, Inc.
Abrams	Abrams Aerial Survey Corporation

Many index sheets are classified as sheet numbers of a certain project, as the San Juan Project, Utah, or in a certain county. Most, but not all, photographs issued by government agencies have certain code letters which precede the flight or film roll and negative numbers. Some photographs and index sheets have been classified by the Department of Defense and their use and distribution must be restricted.

Under the heading *Features* are listed geologic phenomena and a few cultural features such as towns, airports, and harbors which the photographs clearly display. To see many relief features adequately it may be necessary to use a stereoscope with a pair of photographs. Thus the features of glacial sculpture in the Mt. Lyell, California, group show very strikingly with a stereoscope. Those photographs which are especially outstanding displays of the features named are listed in italics. Photographic quality and darkness of print varies somewhat within the collection. Outstanding photographic quality is displayed in the Thermopolis area photographs; Hot Springs County, Wyoming,

INDEX OF AERIAL PHOTOGRAPHS
GEOLOGY DEPARTMENT, UNIVERSITY OF ILLINOIS

Quadrangle or Project	County	Agency	Code	No. of Different Photos	No. of Copies if More Than One	Ownership if Not University	Notes and Features
ARIZONA							
Benson	Cochise	SCS	—	5	9 (3998)		<i>Note:</i> North part of Whetstone Mts. and surrounding slopes. <i>Features:</i> Pediment (9396). Radial drainage from desert mountains. Regional and fault-line escarpments.
Grand Canyon	Coconino	AF obliques	—	4			<i>Note:</i> Oblique air force photographs from R. S. Dietz. <i>Features:</i> Paleozoic section. <i>Erosional remnants.</i>
Meteor Crater	Coconino	AF obliques	—	5			<i>Note:</i> Partly from R. S. Dietz. <i>Feature:</i> Meteor Crater, especially 12918 As and 12923 As.
San Francisco Mts.	Coconino	SCS	BT	4	21 (2009)		<i>Note:</i> Volcanic field near Sunset Crater National Monument. <i>Features:</i> Cinder cones and craters.
ARKANSAS							
Hot Springs and vicinity	Garland	PMA	CQP	4	21 (3A-47) 21 (3A-48) 5 (2A-94) 5 (2A-95)		<i>Note:</i> Ouachita Mts. at Hot Springs. <i>Features:</i> City of Hot Springs (2A-94) Pitching anticline (3A-47).
Hot Springs	Garland	PMA	CQP	44			<i>Notes:</i> Hot Springs and vicinity, Ouachita Mountains, Lake Hamilton in Ouachita River valley. <i>Features:</i> Bridge over Lake Hamilton (3A-53, 3A-54). Carpenter Dam (2A-73). City of Hot Springs (2A-92, 2A-93). Close folding (3A-57 to 3A-61). Golf course (2A-91, 2A-92, 2A-49). Lake Hamilton (flooded area in Ouachita River valley (2A-86, 2A-87, 2A-88, 2A-89, 3A-52, 3A-53, 3A-54, 3A-64 to 3A-67). Pitching anticlines (2A-75, 2A-76, 2A-83 to 2A-85). Pitching anticline and syncline (4A-44, 4A-45). Ridge offset by fault (2A-77, 2A-78). Soil terracing (3A-63, 3A-64, 3A-67, 3A-68). Submerged trellis drainage (3A-65 to 3A-67).

CALIFORNIA

Cayucos	San Luis Obispo	AF		46	<p><i>Note:</i> California coast, Morro Bay area. <i>Features:</i> Coastal erosion including stacks (1264, 1265). Coastal dunes (106, 107). Delta (104, 105). Spit (106, 107). Raised wave-cut terraces (210, 211). Tidal inlet and tombolo, Morro Rock (160).</p>
Escondido	San Diego	PMA	AXN	13	<p><i>Note:</i> Inland from California coast. <i>Features:</i> Contour cultivation of citrus groves (204-34, 204-35). Dissection of an elevated plain (204-38, 204-39).</p>
La Jolla	San Diego	PMA	AXN	4	<p><i>Notes:</i> Southern California coast, Delmar area. Adjoins photos from Oceanside, California. <i>Features:</i> Bay mouth bar across alluviated estuary (204-50).</p>
Oceanside	San Diego	PMA	AXN	42	<p><i>Notes:</i> Southern California coast, Oceanside area. Adjoins Escondido and La Jolla photos. <i>Features:</i> Bay mouth bar, Batiquitos Lagoon (204-70, 204-72); lagoon south of Carlsbad (204-82, 204-83). Dissected raised coastal terraces. Small delta (204-57, 204-58). Tidal streams, San Elijo Lagoon (204-53). Town of Oceanside (204-90). Wave refraction (204-73, 204-74).</p>
Point Arena	Mendocino	PMA	GA	8	<p><i>Note:</i> Inland from northern California coast. <i>Features:</i> Fruit orchards, redwood groves.</p>
Salton Sea	Imperial	PMA	ABN	73	<p><i>Note:</i> Northeast of Salton Sea, southern California desert. <i>Features:</i> Abandoned shore lines of Salton Sea (3-91, 3-92). Deltas in Salton Sea (3-81, 3-82, 4-1, 4-2). Inselberge (6-75 to 6-77). Uppermost former lake level (5-55, 5-56). Youthful dissection of exposed lake floor (3-93, 3-94, 3-101, 3-102).</p>

for such features as dip and strike, pitching folds, and alluvial valleys. A few other especially outstanding groups of photographs are:

Moses Lake quadrangle, Washington, sand dunes
 Cape San Blas and Indian Pass quadrangles, Florida, coastal features
 San Juan area, Utah, joint patterns, deep dissection, and incised meanders
 Mexican Hat area, Utah, incised meanders
 Arco area, Idaho, alluvial fans
 Grand Teton quadrangle, Wyoming, for the Gros Ventre slide
 Scenic area, South Dakota, stages in the erosion cycle, badlands
 Elephant Butte area, New Mexico, volcanic features
 Yukon Delta, Alaska, an alluvial plain with shifting meanders
 Mauritania French West Africa, an eroded dome

Among the photo index sheets, sheet 11 of 11, Ocean County, New Jersey, showing Barnegat Inlet; sheet 4 of 6, Lee County, Florida, showing Sanibel Island; sheets 4, 5, and 6, Santa Barbara County, California, showing San Miguel, Santa Cruz, and Santa Rosa Islands; and sheets 8 and 9, Bedford County, Pennsylvania, showing a pitching anticline, Wills Mountain, are among those which make effective displays of geologic features.

For several pairs of photographs there are sets suitable for student instruction in fair-sized classes. These sets run up to 24 copies and the number of copies of each are separately listed. Some photographs belonging to the Department of Geography, University of Illinois, and to staff members of the Department of Geology which would be available for occasional loan are also listed, although these are not in the aerial photo files in the department.

PHOTOGRAMMETRY IN SWEDEN

Dr. Bertil Hallert, Royal Institute of Technology, Stockholm

THE area of Sweden is about 450,000 square km (174,000 sq. miles), and compared with the population of about 7,000,000, is rather large. The mapping of the country, with a sufficient accuracy and at a reasonable cost, has been and is still a great problem. Up until 20 years ago nearly all mapping in Sweden was performed with classical methods. The land surveyors have been working for hundreds of years, and their maps have been used fundamentally for topographic mapping too. The topographic map of the whole country at scales of 1:50,000 and 1:100,000, and in some areas of 1:200,000, was completed not too many years ago, but the geodetic network and the accuracy of the details were not perfect in all parts of the country.

In some parts of Sweden another kind of map, called the economic map, was started about 100 years ago, with scales of 1:20,000 and in some areas 1:50,000. This special map contains almost all boundaries of the properties and other details of interest for economic purposes and planning. This work continued rather slowly as it was a difficult and expensive job. About 1930 it seemed impossible to continue this work; perhaps it would have been stopped, if photogrammetry had not come to its aid.

In 1930 Mr. *V. Hernlund*, at present, Director-in-Chief of the Geographic Survey Office, organized the tests to use photogrammetry for civil purposes in Sweden. Together with Directors *H. Malmberg* and *E. Lindeberg* he made a plan for the economic mapping of Sweden with the aid of photogrammetric methods. This plan was accepted by the Swedish parliament in 1937, and from the first of July of the same year photogrammetry was officially introduced in Swedish mapping. The Geographic Survey Office of Sweden (*Rikets Allmänna*