THE GEOLOGICAL SOCIETY OF AMERICA

GEOMORPHOLOGY NEWSLETTER

Salutatory

At a meeting, in Minneapolis, of the officers and panel members of the Geomorphology Group of the Geological Society of America, it was decided to publish a Geomorphology Newsletter provided means could be worked out for doing so. Largely as a result of the generous offer of Dr. Henry R. Aldrich to handle printing and distribution of the Newsletter we are able to initiate this project. Our first issue is not an ambitious one, nor is it likely that subsequent numbers will be. The Newsletter is in no way intended to take the place of the suspended Journal of Geomorphology, although it is to be hoped, perhaps, that it may eventually create enough interest among geomorphologists to lead to the revival of this Journal.

The primary objective of the Geomorphology Newsletter is to supply information as to what is being done in the field of geomorphology and closely related fields. We hope, also, that some of the material in the Newsletter may prove useful to teachers of geomorphology.

Admittedly, the first number is somewhat limited in scope, because only the officers and panel members of the Geomorphology Group contributed to it. It is hoped that subsequent issues may become more comprehensive as more and more members of our group contribute to them. We urge you to send in news items and material that you feel will be of general interest, keeping in mind that the function of a Newsletter is to supply news.

William D. Thornbury, Editor
Department of Geology
Indiana University
Bloomington, Indiana

June 1957

OFFICERS OF THE GEOMORPHOLOGY GROUP

Chairman, (1956-1958) J. H. Mackin, University of Washington

1st Vice-chairman, (1956-1958) C. S. Denny, U. S. Geological Survey

2nd Vice-chairman, (1957-1959) J. H. Zumberge, University of Michigan

Secretary, (1957-1959) H. E. Wright, Jr., University of Minnesota

PANEL MEMBERS (1957-1959)

John C. Frye. Illinois Geological Survey
John T. Hack, U. S. Geological Survey
A. D. Howard, Stanford University
Sheldon Judson, Princeton University
A. N. Strahler, Columbia University
W. D. Thornbury, Indiana University

KIRK BRYAN AWARD

A committee consisting of C. S. Denny (Chairman), L. B. Leopold, and H. T. U. Smith has drawn up suggested procedures for the annual nominations for the Kirk Bryan Award. The Award consists of a certificate and a stipend based on funds collected by former students and friends as a memorial to the late Kirk Bryan. The Memorial Fund has reached a sum that will permit an annual stipend approaching $200. The award will be presented to the author or authors of a paper published during the preceding 5 years that deals with geomorphology or a related field.

Translations

Professor Herbert E. Wright, Jr. and his students at the University of Minnesota have rendered a valuable service to Geomorphology by making during the past few years translations of numerous foreign articles. List A below includes the translations that have been mimeographed and are available for distribution. List B includes those that are in typed form, unpolished, or are in preparation, but are available for short loans.

In order to avoid needless duplication of effort in translation, Professor Wright has offered to act as a clearing house for information on translations completed or in progress. This information will then be publicized in later and more comprehensive lists of translations.

List A

Pfannenstiel, Max. Da Klima der Würmeiszeit in Mittel - und Westeuropa nach den Untersuchung von Hans Poser. Petermann's Geographische Mitteilungen, 92nd yr., p. 161-162, 1948. Translated by H.E. Wright. Mimeographed, 4 p.

*Troll, Carl, Strukturböden, Solifluktion, und Frostklimate der Erde. Geologische Rundschau, v. 34, p. 545-694, 1944 Ch. 4 translated by H.E. Wright; mimeographed, 8 p. Ch. 12 (summary) translated by H.E. Wright; mimeographed, 12 p.

Büdel, Julius. Die Klimazonen des Eiszeitalters. Eiszeitalter und Gegenwart, v. 1, p. 16-26, 1951. Translated by H.E. Wright, 1954; mimeographed. 10 p.

Poser, Hans. Zur Rekonstruktion der Spätglazialen Luftdruckverhaltnisse in Mittel- und West Europa auf Grund der vorzeitlichen Dünen. Erdkunde, v. 4, p. 81-88, 1950. Translated by J.D. Wolterstorf, H.E. Wright, and K. Trendota; mimeographed, 11 p., 1954

Troll, Carl. Die Formen der Solifluktion und die periglaziale Bodenabtragung. Erdkunde, v. 1, p. 162-175, 1947. Translated bu H.E. Wright and I. Tkachenko, 1956; mimeographed, 16 p.

Woldstedt, Paul. Die Gliederung des Pleistozans in Norddeutschland und angrenzenden Gebieten. Geol. Fören. Förhandl., v. 77, p. 525-545, 1955. Translated by H.E. Wright, 1956; Mimeographed, 15 p.

Gross, Hugo. Das Alleröd Interstadial als Leithorizont der letzten Vereisung in Europe and Amerika. Eiszeitalter und Gegenwart, v. 4/5, p. 189-208, 1954. Translated by H.E. Wright and R.H. Barton, 1956; mimeographed, 17 p

Gross, Hugo. Weitere Beiträge zur Kenntnis des Spätglazials. Eiszeitalter und Gegenwart, v. 6, p. 110-115, 1955. Translated by H.E. Wright, 1956; mimeographed 6 p.

Troll Carl. Der subnival oder periglaziale Zyklus der Denudation. Erdkunde, v. 2, p. 1-21, 1948. Translated by H.E. Wright and Clarke Thomson, 1957; mimeographed, 26 p.

Woldstedt, Paul. Über die Gliederung der Würm-Eiszeit und die Stellung der Lösse in ihr. Eiszeitalter und Gegenwart, v. 7, p. 78-86, 1956. Translated by H.E. Wright and Wm. Humphrey, 1956; mimeographed, 11 p.

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* A translation of the entire Troll monograph by H. E. Wright is to be published by SIPRE this year.

List A (Continued)

Gross Hugo. Das Göttweiger Interstadial, ein zweiter Leithorizont der letzten Versisung. Eiszeitalter und Gegenwart, v. 7, p. 87-104, 1956. Translated by H. E. Wright, 1957; mimeographed, 17 p.

List B

Bobek, Hans. Klima und Landschaft Irans in vor- und frühgeschichtliche Zeit. Geogr. Jahresbericht Österreich, v. 25, p. 1-42, 1954. Translated by H. E. Wright, 1956; dittoed, 27 p.

Bobek, Hans. Beitrage zur klima-ökologische Gliederung Irans. Erdkunde, v. 6, p. 65-84, 1952. Translated by J. Schenk, 1954.

Pfannenstiel, Max. Das Quartär der Levante, pt. 1, Die Kuste Palästina-Syriens. Akad. Wiss. Lit. Mainz, Abh. Math.-Nat. Kl., Jhrg. 1952. No. 7, p. 375-475, 1952. Translated by H. E. Wright, 1955.

Büdel, Julius. Die "periglaziale"-morphologischen Wirkungen des Eiszeitklimas auf der ganzen Erde. Erdkunde, v. 7, p. 249-260, 1953. Translated by David Alt and H. E. Wright, 1957.

Büdel, Julius. Bericht über klima-morphologische und Eiszeitforschungen in Niederafrica. Erdkunde, v. 6, p. 104-131, 1952. Translated by G. Putzrath, 1953.

Hoppe, Gunnary. Drumlins i nordöstra Norrbotten, Geografiska Annaler, v. 33, p. 157-165, 1951. Translated by I. G. Bue, 1953.

Hörner, N. G. Uppsalamoranens finfraktioner. Geol. Foren. Forhandl., v. 68, p. 419-428, 1946. Translated by E. Hansen, 1953.

Klute, F. Das Klima Europas während des Maximums der Weichsel-Würmeiszeit und die Anderung bis zur Jetztzeit. Erdkunde, v. 5, p. 273-283, 1951. Translated by

Poser, Hans. Boden- und Klimaverhaltnisse in Mittel- und Westeuropa während der Würmeiszeit. Erdkunde, v. 2. p. 53-68, 1948. Translated by H. E. Wright, N. Prokopovitch, and J. Schmautz, 1957.

Richter, Konrad. Die Bewegungsrichtung des Inlandeises, rekonstruirt aus den Kritzen und Längsachsen der Gescgiebe. Zeitschr. f. Geschiebe forschung, v. 7, p. 62-66, 1931. Translated by A. F. Schneider, 1954.

Commission for the Study of Slope Evolution of the International Geographical Union

Introductory Explanation

A. N. Strahler

Liaison between American geomorphologists and the geomorphologists of Europe and the British Commonwealth has been faulty for a reason quite apart from the obvious barriers of distance and language. Academically, geomorphology in the European and British Commonwealth countries is most commonly an integral part of geography, whereas in the United States geomorphology is largely taught in geology departments and practiced by geologists. Imagine the disappointment of a group of leading geomorphologists of England and Europe who came to the International Geographical Union in Washington, D. C. in August, 1952, hoping to meet and exchange views with Americans. With only two or three of us representing geomorphology in the United States, I found myself having to explain repeatedly that the men these visitors wished to see were not deliberately snubbing their over-seas colleagues; but that most American geomorphologists were in the geological profession and simply did not affiliate with geographical organizations.

One useful function of the Geomorphology Group will be to increase the degree of effective communication among geomorphologists the world over, whatever their academic classifications. To this end, two recent communications are reprinted below in full. They tell of the work and plans of the Commission for the Study of Slope Evolution of the IGU. Already published is the Commission's First Report, printed in Amsterdam in 1956 under the supervision of Professor J. P. Bakker, then Commission Secretary. This 155-page report not only contains valuable bibliographies on slope development but contains summary articles on slope research abroad.

International Geographical Union
Commission for the Study of Slope Evolution
Program for the Period 1956-1960

P. Macar

The Commission for the study of Slope Evolution was created in 1952 at the Internationsl Geographical Congress in Washington. It presented a first report of 155 pages to the Congress at Rio de Janeiro.

The composition of the Commission for the period of 1956-1960 is the following:

Regular members: P. Birot (France) and P. Macar (Belgium), co-presidents.
H. Mortensen (Germany), secretary
D. L. Linton (Great Britain) and L. Solé Sabaris (Spain) members

Corresponding members: Aziz Ab' Saber (Brazil), J. P. Bakker (Netherlands)
S. Errino (Turkey), F. H. Hjulstrom (Sweden),
J. Hovermann (Germany), A. Jahn (Poland),
L. G. King (South Africa), R. A. G. Savigear (Great Britain)
A. Sestini (Italy), Spreitzer (Austria), J. Tricart (France)
H. O'Reilly Sternberg (Brazil), A. N. Strahler (U. S. A.)

The executive committee (officers) which met at Liege in December 1956, fixed as follows the program of work for the same period:

1. The bibliography relating to slope problems, the beginning of which was published in the first report, will be followed up and completed. The lists already established will be brought up-to-date. In addition, a bibliography will be assembled on the following subjects:

a) Technical literature on the various problems affecting slopes (landslips, creep, rain wash, landslides, avalanches, etc.), to be assembled by: English, R. J. Russell (U. S. A.); German, H. Annaheim (Switzerland); French, P. Macar (Belgium).

b) Slope evolution in a periglacial climate, to be assembled by: English, R. J. Lougee (U. S. A.); French, J. Tricart (France); German, J. Hoverman (Germany); Slavic, A. Jahn (Poland).

c) Alteration phenomena of historical monuments : to be assembled by: Knetsch (Germany).

d) Slope evolution in a tropical humid climate: to be assembled by G. Rougerie (France).

e) Slope evolution in an arctic climate: to be assembled by J. H. Hjulström (Sweden).

As in the first report, it is requested that a short abstract accompany the important works, especially for technical literature not readily accessible to geomorphologists in general.

2. The study of valley-side types will likewise be pursued; the Commission would like to see these divided at the rate of at least one example per important type of climate. An account, by P. Birot, follows of the methods recommended after the experience of work now in progress or already set forth in the first report. The Commission would be happy to receive possible criticism on this subject or mention of other methods used. It expresses the wish,

besides, that studies of this kind be entrusted to students as work at the end of their studies or for a thesis.

3. As in the first report, the Commission will receive a limited number of short articles, or even abstracts of recent papers or papers soon to appear, and treating in a general fashion of problems relating to slopes, and, in particular, the relations of slopes to climate, nature and geologic structure of the substratum, importance and evolutionary stage of the rivers, position of the valley sides in relation to the bends of the river, thickness of the mantle of superficial disaggregation, etc.

In the beginning, members of the Commission were requested to solicit or to prepare abstracts of published studies in their respective countries or in neighboring countries not represented on the Commission.

4. The Commission will likewise receive, under the same conditions, papers and abstracts relating to the disaggregation of rocks, the importance of which for the evolution of slopes was emphasized in the first report (p. 9). Where experimental studies relating to this subject are involved, the Commission will endeavor to establish an exchange of information between the laboratories concerned.

5. Although it does not expressly appear in its program, the study of the phenomena of accelerated erosion (soil erosion) likewise interests the Commission. Natural phenomena (forest fires, for example) can locally bring about analogous forms, while closely related forms are observed in regions with topography of the "badland" type. Besides, the rapid evolution of forms due to accelerated erosion allows a more extended and more complete study than the natural scheme, and thus might reveal important facts of general value in the evolution of slopes.

The committee of the Commission will get in touch with the Commission of applied geomorphology on this subject and, if the question is interesting from another point of view, will try to work out with it a program of common endeavor.

Note on "Valley-Side Types"

by P. Birot

Work carried out in different countries from 1953 to 1956, part of which has been published, allowed summary specification of the proposed methods in the practical program of the Commission. It would be useful to spread the explanation of these techniques as widely as possible. With this aim, the Committee prepared the following text. We would be grateful to members of the Commission willing to improve upon it.

1. Preliminary mapping of all details of the relief on soil and colluvium.

Work completed in Germany (Hempel, see p. 75 of Report) and in Poland (Klimaszewsky) demonstrated the advantage of preliminary mapping of the surface surrounding a valley-side type and consisting, for example, of a square about 3 km on a side. One notes particularly the distribution of rocky surfaces and of colluvium (talus, etc.), slope variation, etc. In this way the numerous changes that a slope profile undergoes and the influence of slope conveyances and divergences will appear. Finally, one can better eventually separate the forms and inactive soils adjoining active slopes (e. g. ancient talus cones).

2. Direct methods for determining the speed of present-day erosion
a) for a slope with vegetative cover.

The wire method (Report, p. 87) allows measurement of superficial ablation which is caused by running water and creep. It consists of stretching a wire of known diameter and tension between two metal pegs and of measuring every 10 cm the distance between the wire and the surface of the ground. Comparison of two successive profiles allows estimation of the surface modification (Report, p. 85)

The photographic method gives the same result. Successive photographs should be taken from exactly the same position and angle. (Rougerie, Rev. Geomorph Dyn. 1954). Moreover, one can record modifications of the vegetative cover. Simultaneous photography on panchromatic emulsion with a filter lets only ultraviolet pass and on infrared emulsion reveals numerous details of the deepest part of the soil, particularly its degree of humidity.

The action of running water can be isolated only by gathering the water from a separated area by means of a cement collecting canal which conveys the water to a tank. The tank is furnished with a filter system that permits sorting of the transported fractions (Report, p. 88-89).

It is also necessary to collect the percolating water which transports a relatively more important amount of dissolved substances than the running water. For this one must prepare the canal along a contour and excavate it down to bedrock, leaving a series of holes in the cement wall on the upslope side, acting as a filter. When one wants only to measure the chemical wear, it is more economical to analyze the water of a small natural stream at the base of the slope and to planimeter its basin slope.

For general soil movements, the only practical method is that using decay-proof colored logs which has already been described in the report.

b) for a barren slope.

The meticulous study of granules of the soil often yields results permitting determination of certain parameters important for comprehension of the manner of slope evolution. A method is considered here which has been applied to a slope consisting in its upper part of two series of rocks the debris of which are

readily identifiable, one resistant and the other unresistant, while the lower section is composed of any kind of rocks whatsoever.

If in a series of soil samples one examines the debris of the allochthonous rocks in the course of its progress toward the talus, the comparison of the rate of its decrease in size can give interesting information. If one considers this program on the surface, the fact that one finds the largest fragments upslope, could be due either to a phenomenon of sorting, as in the case of alluvium, or to the wear which a fragment undergoes in the course of its movement. In the first case, fragments of the resistant rock will be rarer and rarer downslope. In the second case, on the contrary, the proportion of fragments, the size of which exceeds, for example 30 cm composed of resistant rock, will be larger and larger downslope, since an increasing proportion of the unresistant rock will be reduced to grains or even to clay. If one now considers the proportion of fragments of these two rocks in the soil mass, it is probable that the phenomena of sorting are very weak and that decreases in size chiefly expresses the progress of wear in terms of the path travelled.

Thus one arrives at the determination of one of the most important parameters for understanding slope curvature, that is to say, the rate of decrease in size as a function of distance travelled. If moreover one can determine the speed of movement, from it one can infer the rate of decrease in size as a function of time.

Current Work of the United States Geological Survey in Geomorphology

as reported by John T. Hack,
Washington, D. C. area

An important development in the Washington area is the recent completion of an experimental flume for the study of river channels and patterns. The flume is housed at the Hydraulic Engineering Laboratory of the University of Maryland at College Park. It was designed and constructed by L. B. Leopold, M. G. Wolman, L. M. Brush and N. J. King, who had to supplement their knowledge of Geomorphology with the rudiments of bridge design, welding, plumbing, and the junk business. The flume is 4 feet wide, 52 feet long, has a slope adjustable between 0 and 3 percent, a mechanism for continuous sand feeding and weighing, measurement of velocities at any point and controlled discharge up to a maximum of 10 cubic feet per second.

Lucien M. Brush has recently completed a manuscript dealing with the profiles, channels, and flow characteristics of some streams in central Pennsylvania. He is currently studying the recent history and processes of erosion and deposition in Muddy Creek, an alluvial stream in south-central Wyoming, and

is also working with M. G. Wolman on the experimental flume studies and on small drainage basins in the D. C. area.

William E. Davies has been continuing his work on caves and karst areas in the Appalachians and is preparing a map of the river terraces of the Potomac basin. In addition, he has been doing geomorphic work in northern Greenland.

Charles S. Denny has completed his work on the glacial geology of the upper Susquehanna River area in northeastern Pennsylvania and adjacent New York. This spring he has been in the field in California studying alluvial fans and pediments in the Amargosa Desert, east of Death Valley.

Arthur T. Fernald is preparing reports on the geomorphology of the upper Kuskokwim and the Kobuk River valleys, Alaska.

Oscar J. Ferrians and Henry R. Schmoll are working on the glacial geology of the northeastern Copper River area, Alaska, and on a problem of pebble orientation in massive and laminated silts.

John T. Hack has completed two reports on geomorphic processes in streams and on slopes in the Appalachians of Northern Virginia, one of them written in collaboration with a plant ecologist, John C. Goodlett, of Harvard University. This spring and summer he is working on a small scale surficial geologic map of the Shennadoah Valley for use in a study of the erosional development of that region.

G. William Holmes is currently studying the glacial geology of the Johnson River area, Alaska., A map of the glacial geology of the Mt. Hayes D-3 and D-4 quadrangles is in preparation .

Thor N. V Karlstrom is continuing his work on correlation problems in relation to astro-climatic theory and is working on maps and reports of the Cook Inlet region and the Seward - Portage Railroad belt. He is also working with others on the compilation of a map of the Quaternary deposits of Alaska.

Luna B. Leopold has just published (with M. G. Wolman) a paper presented orally last summer at the 42nd meeting of the International Association of Hydrology at Dijon, France, on Floods in relation to the river channel. He has a report in preparation (with M. G. Wolman) dealing with river channel patterns.

Donald R. Nichols' current project is the glacial geology of the southeastern Copper River basin, Alaska. He also has maps in preparation on the Susitna-Maclaren River area.

Frank W. Trainer is working on a study of aeolian deposits in the Matanuska Valley, Alaska.

John R. Williams is working on the Quaternary geology of the southwestern Copper River basin and has maps in preparation on the Yukon Flats, Fairbanks, and Big Delta areas, Alaska.

M. G. Wolman has finished several projects including a paper (with L. B. Leopold) on the formation of river flood plains and (with J. P. Eiler) on the flood of August, 1955, in Connecticut. He is currently making studies (with L. M. Brush) of equilibrium conditions affecting channel cross sections in an experimental flume; bank erosion and the pool and riffle problem in several streams of the Maryland piedmont; and hydraulic factors in runoff and erosion on ephemeral channels in a forested area.

Denver, Colorado, Area

Rober B. Colton is completing his report on the Fort Peck Indian Reservation and adjacent areas, Montana. He has compiled with Robert M. Lindvall a preliminary photo-reconnaissance map of continental glaciation in Montana for use on the proposed glacial map of the United States.

Dwight R. Crandell recently completed a report, mostly Quaternary stratigraphy and geomorphology, of the Pierre area, South Dakota. He currently is mapping the surficial deposits of four quadrangles in the Puget Sound basin east of Tacoma, Washington, and also is studying Pleistocene and Recent volcanic mud-flows derived from some of the volcanoes of the Cascade Range in Washington.

Richard R. Hadley has been working on:

(1) Erosion and drainage basin characteristics of the Cheyenne River basin, Wyo., (with S. A. Schumm; report completed.)

(2) Post-glacial history of Fivemile Creek, Fremont County, Wyo.

(3) A compilation of data is being continued on differences in degree of slope, drainage denisty, and vegetation as affected by slope aspect. This project also includes a study of assymetry in drainage basin development due to aspect.

Harold E. Malde has completed a report on the geology of the Charleston phosphate area, South Carolina. The area studied embraces topographic features that have been ascribed to Pleistocene marine erosion, and those features are discussed in the light of stratigraphic, paleontologic, and pedologic data that tell something of their origin.

Stanley A. Schumm is completing his work on the relation between sedimentation, in small reservoirs located throughout the United States, and annual precipitation. He is applying this relation to the problem of the effect of a climate change on stream regimen.

He is doing a long-term study with R. F. Hadley on the relation of land-

form characteristics to hydrologic data in eight small drainage basins tributary to Badger Wash near Mack, Colorado. Surveys and staked hill-slope profiles provide information on slope and stress channel erosion. In the 1957 field season, he will work on studies of stream channel aggradation and erosion in western Nebraska and eastern Wyoming.

Roger B. Morrison is preparing a report on the southern Carson Desert, near Fallon, Nevada, which emphasizes the late Quaternary stratigraphy and history of Lake Lahontan; he also is studying an intermontane basin along the Gila River between Lordsburg, New Mexico and Clifton, Arizona, with emphasis on late Tertiary and Quaternary stratigraphy and geomorphology.

Gerald M. Richmond has completed his work on the Quaternary stratigraphy of the La Sal Mountains, Utah (in press), and is working on a paper correlating Late Quaternary glacial deposits in the Rocky Mountain region. He is currently studying the Quaternary geology of the east slope of Glacier National Park and adjacent high plains, Montana.

Menlo Park, California, Area

David M. Hopkins has been working on studies of terraces and Pleistocene deformation of Inuruk Lake, Alaska, and on the Bering Sea land bridge in relation to Pleistocene climates. He is at present continuing his studies of placer gold deposits in Alaska and Pleistocene history in western Alaska, particularly in the Seward Peninsula.

Arthur H. Lachenbruck has reports in preparation on ice wedge polygons in Arctic Alaska, and the geothermal effects of the ocean on permafrost.

Troy L. Péwé has several reports and geologic maps in preparation on the Pleistocene geology of central Alaska including a report on ground ice. He is continuing his regional studies in the field, and also is working on a glacial map of Alaska.

Clyde A. Wahrhaftig has been working on the Quaternary geology of the Nenana River area, on the engineering geology of the Alaska Railroad, with particular reference to landslides, and a study of rock glaciers in the Alaska Range. He is also preparing a report on the physiographic divisions of Alaska.

Miscellaneous News Items

Luna B. Leopold has recently been appointed Chief Hydraulic Engineer of the U. S. Geological Survey in charge of the Water Resources Division. He repalces Carl G. Paulsen on his retirement after more than decade in this position. The announcement was made May 1, 1957 by Director Thomas B. Nolan.

Luna hopes to continue some of his own research in river morphology, in spite of his new responsibilities.

The Fifth Congress of the International Quaternary Association (INQUA) will be held in Madrid and Barcelona Sept. 2-16, 1957 (advanced 2 weeks from original date). The sessions will be preceded by two 8-day excursions, one to the Pyrenees, the second along the north coast of Spain. The meetings will start in Madrid, will be interrupted by a 6-day group excursion to eastern Spain and Mallorca, and will terminate in Barcelona.

The following sections are being organized: astronomy, physics of the globe, climatic pedology and petrography of sediments, morphology, glaciology, hydrology and limnology, paleontology, paleoanthropology, palethnology, geochronology, paleoclimatology, regional Quaternary.

Additional information is available from M. L. Solé Sabaris, Instituto Geologico, Universidad, Barcelona, Spain.

The eighth annual field conference of the Midwestern Friends of the Pleistocene was held April 26-28 in south-central Indiana, with headquarters at Indiana University, Bloomington, Indiana. About 87 persons from Colorado, Iowa, Minnesota, Nebraska, Illinois, Wisconsin, Indiana, Ohio, Michigan, District of Columbia, and Ontario, Canada attended. The major objective of the field conference was to present evidence for extensive Kansan glaciation in Indiana. An invitation from Dr. Wilson M. Laird, State Geologist and Head of the Department of Geology at the University of North Dakota, to meet in North Dakota next spring was accepted by the group. Dr. Richard W. Lemke will assist Dr. Laird in planning next year's conference.

"Concept of the Graded River" by J. H. Mackin (Geol. Soc. Am. Bull., v. 59, p. 463-512, 1948) has been mimeographed by the graduate student group at the University of Washington and is available from the Secretary of the Geology Department.

Louis C. Peltier, formerly geologist on the staff of the U. S. Geological Survey, has recently accepted a position in the Department of Commerce as Program Officer in the office of Area Development.

Robert M. Sifagoos, a plant ecologist of the Geological Survey, who has been studying vegetation in relation to geomorphology, particularly problems of permafrost in Alaska, will have a new position in the Geological Survey beginning this summer, where he will work on botanical problems related to water supplies, floods, and river morphology

David Smith, a candidate for Ph. D. at Stanford this June, has accepted a teaching appointment in the general field of geomorphology at Dartmouth College, beginning with the 1957-58 academic year.

Professor Sheldon Judson begins this summer a study of the geology of a paleolithic site at Les Eyzies, in the Dordogne region of France. He will be concerned with the glacial sequence in the Massif Central, terraces of the Dordogne and tributary rivers, and the marine sequence in the Bordeaux area. He will be accompanied by John C. Stewart and Vinton Gwinn, Princeton University graduates in geology. The actual archaeological excavation is to commence in 1958 under direction of Hallam Movius, Peabody Museum, Harvard.

Beginning in 1957 the ZEITSCHRIFT FUR GEOMORPHOLOGIE will again be published. Papers in it can be published in German, English, or French. Papers for publication should be sent to Prof. Dr. Hans Mortensen, Geographisches Institut der Universität, Göttingen, Germany.

Persons especially interested in periglacial phenomena may find the Biuletyn Peryglacjalny (Periglacial Bulletin) of interest. It is published by the Łódź Scientific Society at ul. Sklodowskiej-Curie 11, Łódź, Poland. Professor Jan Dylik is editor. The first number of the bulletin appeared in October 1954. The latest issue was in October 1956. Papers are written in English, French, German, Russian, and Polish.

A good set of aerial photographs illustrating various types of glacial deposits and landforms was prepared by the Research Council of Alberta and sold for $6.75 under the title "Air Photographs of the Plains Region of Alberta". The photographs are bound together with descriptive material prepared by C. P. Gravenor. Sets of three that will give stereoscopic coverage of each area may be purchased for $2.40 or 80¢ per photo.

Possibly a few teachers of geomorphology may have failed to receive notice of the publication by the U. S. Geological Survey of a set of 100 maps illustrating specified geomorphic features. The set of 100 maps can be purchased for $15.00 and makes a good nucleus for laboratory map study in courses in geomorphology.