

bulletin

of the international society of soil science

bulletin

de l'association internationale de la science du sol

mitteilungen

der internationalen bodenkundlichen gesellschaft

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Von-Siebold-Str. 4, Bundesrepublik Deutschland

Commissions/Commissions/Kommissionen - Chairmen/Présidents/Vorzitzende

I - Soil physics/Physique du sol/Bodenphysik

Prof. Dr. M.F. de Boodt, State Agricultural University, Coupure 533, 9000 Gent, Belgique

II - Soil chemistry/Chimie du sol/Bodenchemie

Prof. Dr. W. Flaig, Institut für Biochemie des Bodens, Forschungsanstalt für Landwirtschaft,
Bundesallee 50, 3301 Braunschweig, Bundesrepublik Deutschland

III - Soil biology/Biologie du sol/Bodenbiologie

Prof. Dr. sc. agr., Dr. h.c., G. Müller, Bodenkunde u. Mikrobiologie

Martin-Luther-Universität Halle, 402 Halle, Weidenplan 14, Deutsche Demokratische Republik

**IV - Soil fertility and plant nutrition/Fertilité du sol et nutrition des plantes/
Bodenfruchtbarkeit und Pflanzenernährung**

Dr. C. Hera, Institut Central de Recherches Agricoles, Bd. Marasti 61, Bucarest, Roumanie

**V - Soil genesis, classification and cartography/Genèse du sol, classification et cartographie/
Bodengenetik, Klassifikation und Kartographie**

Prof. Dr. Ing. M. Cirić, Leninova, Sumarski fakultet, 71000 Sarajevo, Yugoslavia

VI - Soil technology/Technologie du sol/Bodentechnologie

Dr. V.V. Egorov, Dokuchaev Institute of Soil Science, Pyjevski 7, Moscow-17, U.S.S.R.

VII - Soil mineralogy/Minéralogie du sol/Bodenmineralogie

Prof. Dr. L. Pavel, Dept. of Soils and Geology, Agricultural University
(V.S.Z.), Prague 6 - Suchdol, Czechoslovakia

11th CONGRESS, INTERNATIONAL SOCIETY OF SOIL SCIENCE, 1978

NOTICE OF INTENT

First Announcement

The Congress will be held June 19-27, 1978 at the University of Alberta, Edmonton, Canada. Pre-Congress and Post-Congress tours, as well as one-day local tours have been planned as described below and elsewhere.

Three important points apply to all tours:

- Actual availability of each tour will be dependent upon an adequate number of participants joining it.
- Preference for the limited number of places on each tour will go to those who indicate their preferences by returning this form.
- *Private cars cannot be accommodated on the tours.*

(Please Type or Print in BLOCK LETTERS)

TITLE AND NAME _____

ADDRESS _____

Registration fee (not to exceed \$100) will include the Transactions, a banquet and several other items.

I EXPECT TO ATTEND THE 11th ISSS CONGRESS.
I expect to be accompanied by: Wife _____ (name)
Others _____

MY TOUR PREFERENCES ARE:

	1st	2nd	3rd
Pre-Congress Tour No.	___	___	___
Post-Congress Tour No.	___	___	___

My preferences for local tours are:

Local One-day Tour No. (Pre/Post-Congress) ___ ___ ___

Local One-day Tour No. (During Congress) ___ ___ ___

NOTE: Tour No. 1-9 inclusive are Pre-Congress; Tour No. 10-18 inclusive are Post-Congress. Edmonton Local one-day tours are No. E1, E2 and E3; Vancouver Local one-day tours are No. V1, V2, V3 and V4.

I EXPECT TO SUBMIT A PAPER TO BE CONSIDERED FOR PRESENTATION TO COMMISSION ____.
The proposed title of my paper is _____

If my paper is accepted for presentation I would prefer:

- To make a regular type 15-minute oral presentation.
- To present my material at a Poster session over a 2-3 hour period. (Details to be provided to me later.)

NOTE: Invitations to submit papers as well as official registration forms will also be included in ISSS Bulletins No. 50 (Jan. 1977) and 51 (July 1977). There may be some additional notices from the Organising Committee.

MY ACCOMMODATION PREFERENCES WILL PROBABLY BE:

- University Residence adjacent to Congress Headquarters (least costly).
- Hotel.
- Motel (primarily for those with cars).

Date _____ Signature _____

SEND TO: Eleventh ISSS Congress
Box 78, Sub. 11
University of Alberta
Edmonton, Canada T6G 2E0

(Please keep one copy for your records.)

**Second meeting of the Working Group on
Soil information systems (Commission V, ISSS)
Sofia, Bulgaria, 22-29 May, 1977**

Organized by the Ministry of Agriculture and Food Industry
the N. Poushkarov Institute of Soil Science and
the Society of Soil Science, Bulgaria

Main topics of the meeting are:

- Data input methods
- Data storage and retrieval
- Methodology of data base management systems
- Applications of soil information systems

Languages: English and Russian

Intent of participation should be communicated not later than 1 Nov., 1976.

Deadline for acceptance of papers is 1 December, 1976.

Papers should not exceed 3000 words.

Registration fee: US \$ 40.

NOTICE OF INTENT

Name

Title or function

Address
.
.

Institution

I am interested in receiving further details on the Second meeting of the Working Group on Soil information systems (Commission V, ISSS), Sofia, Bulgaria, 22-29 May, 1977

I expect to be able to attend the meeting

I expect to be accompanied by
.

I propose to submit a paper entitled
.
.

Date Signature

Please return to: **Prof. Dr. I. P. Garbouchev, Chairman**
Organizing Committee of 2nd Meeting WGSIS
N. Poushkarov Institute of Soil Science
5, Shosse Bankja, Sofia
Bulgaria



11th Congress of the International Society of Soil Science

USA Tours, 1978

(see also p. 24; voir p. 24; siehe S. 24)

In connection with the 11th Congress of the ISSS, which will be held in Edmon- ton, Canada, 19-27 June 1978, there will be an opportunity to take a tour in the USA organized by the Soil Science Society of America.

These activities will not interfere with those scheduled in Canada since tours in the USA will be held either before the pre-congress tours in Canada or after the post-congress tours.

In order to allow the USA organizers to make arrangements, those interested are requested to send in the following preliminary

NOTICE OF INTENT

Name

Title or function

Address
.
.

I expect to attend the 11th Congress of the ISSS and would be interested in taking a tour in the USA, with preference for the following area:

Tours before the Congress (Southern USA):

- Ia. May 29-June 5, Atlanta, Georgia
- Ib. May 29-June 5, Tucson, Arizona
- Ic. June 6-7, Lincoln, Nebraska

Tours after the Congress (Northern USA):

- IIa. July 9-14, Chicago, Illinois
- IIb. July 9-13, Spokane, Washington
- IIc. July 7-8, Lincoln, Nebraska
- IId. July 9-13, Boston, Massachusetts

Date Signature

Please return to: Dr. L.J. Bartelli
Director, Soil Survey Interpretations Division
SCS - USDA
Washington, D.C. 20250, U.S.A.

**Classification and Management of Tropical Soils
(Commissions IV and V, ISSS)
Kuala Lumpur, Malaysia, 15-21 August 1977**

Organized by the Malaysian Society of Soil Science

Suggested topics for the Conference are:

- Soil genesis, classification and cartography
- Evaluation of fertility status and fertilizer requirements
- Soil management
- Land evaluation in tropical areas

Language: English

NOTICE OF INTENT

Name

Title or function

Address
.
.

Institution

I am interested in receiving further details on the Conference on Classification and Management of Tropical Soils, Kuala Lumpur, 15-21 August 1977

I expect to be able to attend the Conference, 15-21 August 1977 . . .

I am interested in participating in the tours:
- Pre-Conference tour, Peninsular Malaysia, 8-14 August 1977 . . .
- Post-Conference tour, Sabah and Sarawak, 22-28 August 1977 . . .

I expect to be accompanied by
.

I propose to submit a paper entitled
.
.

Date Signature

**Please return to: Malaysian Society of Soil Science
c/o Soils and Crop Management Division
Rubber Research Institute of Malaysia
Jalan Ampang
P.O. Box 150
Kuala Lumpur, Malaysia**

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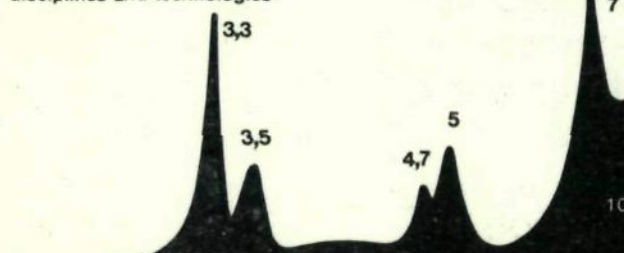
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CALICHE: ORIGIN, CLASSIFICATION, MORPHOLOGY AND USES

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The first major, comprehensive work on caliche, including distribution maps, 136 figures and illustrations, over 420 references and 223 pages.

Seven Chapters: 1) Introduction, terminology, distribution; 2) Geochemistry and mineralogy; 3) Morphology - macroscopic and microscopic; 4) Formation - age, environment, genesis, source of calcium, time required; 5) Classifications; 6) Uses; 7) Select resumes. Appendix - a diffusion model for caliche by Lynn Marcoux.

Of interest to geologists, hydrologists, engineers, soil scientists, mineral exploration departments, etc.

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Vol. 23 of Agrochemistry and Soil Science, Budapest 1974, 238 pages.

Dedicated to the work and memory of Prof. Dr. A.A.J. DE' SIGMOND on the occasion of the centenary of his birth. 27 papers on alkaline and saline soils, their analysis, survey, reclamation, fertility, mineralogy. Bibliography of De' Sigmond's publications.

Price US \$ 6.00 (post paid)

Available from: Secretary General, ISSS c/o FAO, Via Terme di Caracalla - 00153 Rome, Italy

Payable in advance by cheque, money order or as Unesco coupon to the order of R. Dudal, International Society of Soil Science.

SYMPOSIUM on the RECLAMATION of SODIC and SODA-SALINE SOILS

Yerevan, 21-31 May 1969

ISSS Sub-Commission on Salt Affected Soils
Ministry of Agriculture of the Armenian SSR

Agrochemistry and Soil Science, Vol. 18, Budapest, 392 pages.

Price US \$ 9.00 (post paid)

Available from: Secretary General, ISSS c/o FAO, Via Terme di Caracalla - 00153 Rome, Italy

Payable in advance by cheque, money order or as Unesco coupons to the order of R. Dudal, International Society of Soil Science.

SOIL INFORMATION SYSTEMS

Proceedings of the meeting of the ISSS Working Group on Soil Information Systems held at Wageningen, The Netherlands September 1-4, 1975, 93 pages.

Edited by: Stein W. Bie

Published by: Centre for Agricultural Publishing and Documentation
Wageningen, The Netherlands

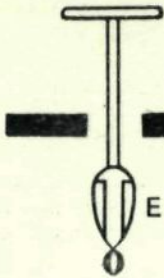
Computer-aided soil information systems allow powerful analysis of the state of our soil resources. Soil survey generates large numbers of descriptions, tables and maps. New techniques of data handling and spatial analysis now enable all data to be stored and processed so that the user can get more specific soil information.

Under the auspices of the International Society of Soil Science and the Food and Agriculture Organization of the United Nations, designers of soil information systems, and their geological, geographical and cartographic colleagues reviewed current methods of data capture and input, management systems for advanced data bases and automated cartography, and discussed user needs in developed and developing countries.

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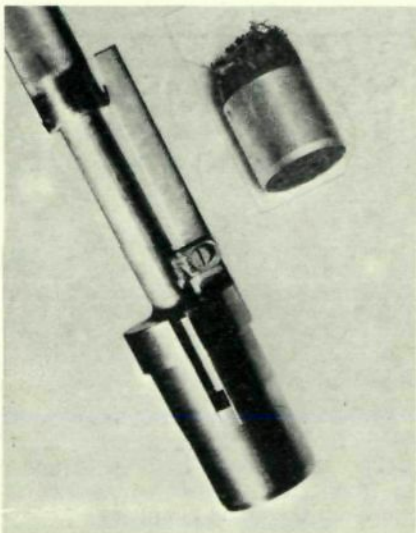
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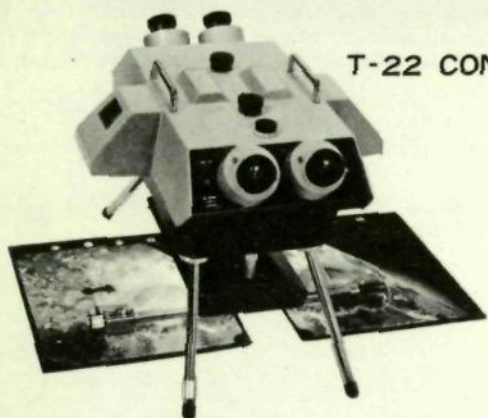
- ringholders
- special outfits for hard soil-layers
- etc.

POSSIBLE RESEARCH ON pF - RINGS

- soil moisture retention curves, with sand-box apparatus / pressure membrane apparatus (pF - range 0 - 4.2)
- water permeability, with laboratory permeameter
- volume weight measurements
- etc.



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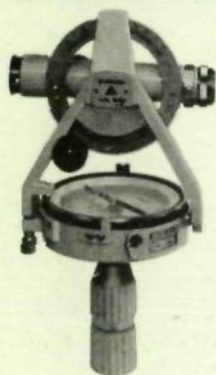
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Programme: The Agricultural University at Wageningen, The Netherlands, organizes for foreign students, in particular from developing countries, an M. Sc. course in Soil Science and Water Management with the purpose to afford them an opportunity of specializing in soil survey, land classification, soil fertility, soil and plant analysis, irrigation, drainage and agrohydrology.

Duration: Two years.

Language: English. Entrance examination April/May 1977. Next session: September 1977 - July 1979.

Information: M. Sc. Course in Soil Science and Water Management, Agricultural University, P.O. Box 37, Wageningen, The Netherlands.

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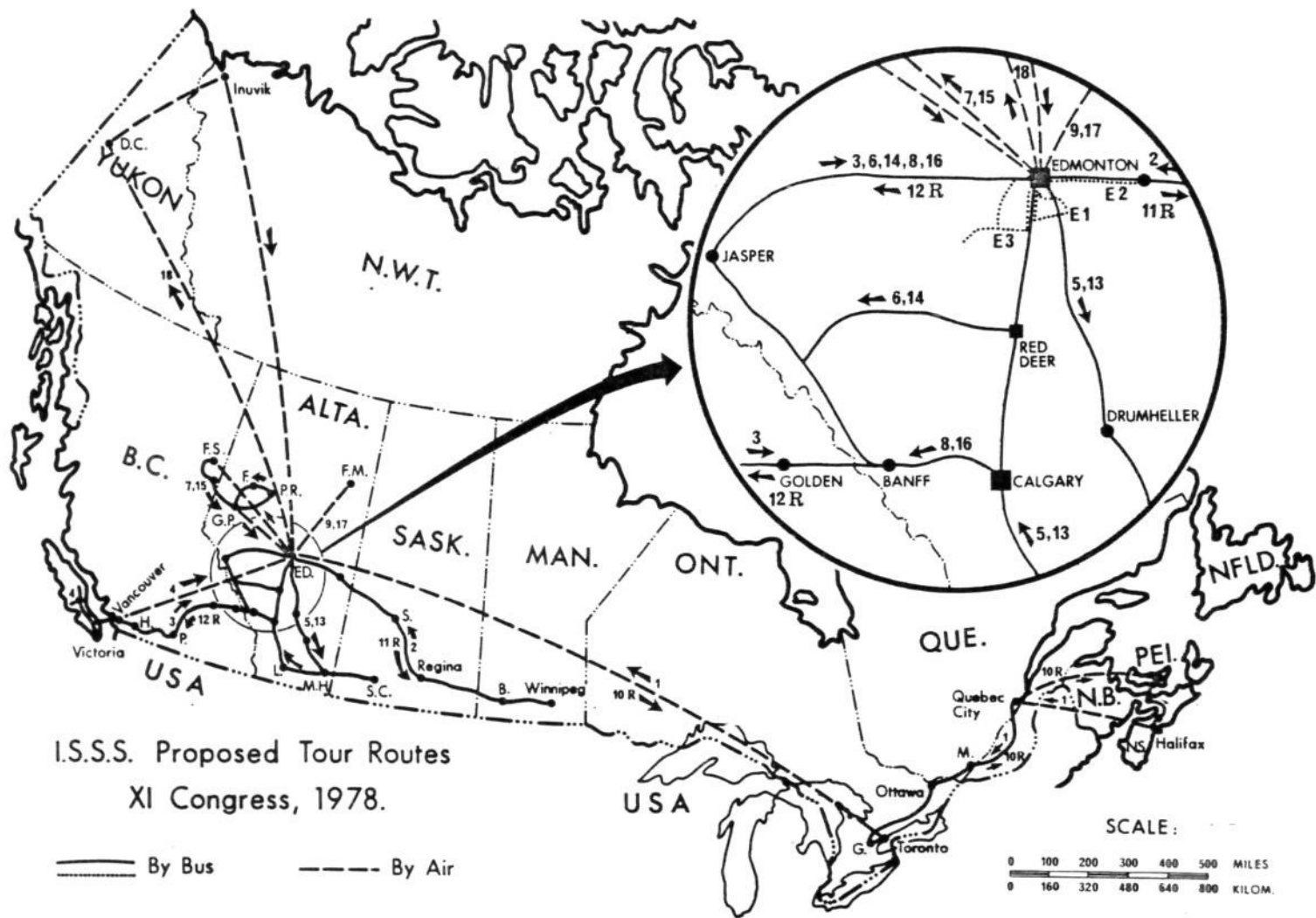
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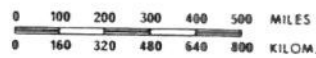
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I.S.S.S. Proposed Tour Routes
 XI Congress, 1978.

————— By Bus - - - - - By Air





THE 11th CONGRESS OF THE ISSS
Edmonton, Canada, 19-27 June 1978

PROGRAM INFORMATION

Theme: Optimum soil utilization systems under differing climatic restraints.

Plenary Sessions: Technically world food production is limited by soils, climate and man's ability to harness soils and plants into an efficient production system. Five plenary sessions of the 11th ISSS Congress will be devoted to the major climatic regions of the world and speakers will document for each:

1. The soils, their significant limitations for food production, and the overriding climatic restraints; and
2. Present dominant farming systems in comparison to optimum utilization of the soils concerned.

Invited specialists of international stature will discuss these topics for each of the five major climatic regions as follows: i) Polar; ii) Humid Microthermal; iii) Humid Mesothermal; iv) Dry Desert and Steppe; v) Rainy Tropical.

Symposia: Six symposia are planned on the following themes:

- 1) Isotopes in Action; 2) Resource Information Systems; 3) Soil Deterioration and Reclamation; 4) Utilization of Northern Canadian Soils; 5) Soil Structure; 6) Long Term Outlook Regarding Soil-Climate Interrelationships.

Commissions: Commission sessions are on topics that are of high current interest to soil scientists and will usually be supportive of the general Congress theme. Some Commission sessions will be available to accommodate papers submitted on topics of general interest. Commissions will give preference to papers submitted on the following topics:

Commission I (Soil Physics)

- 1) Frozen soils; 2) Soil physics and soil engineering; 3) Field measurement of physical properties.

Commission II (Soil Chemistry)

- 1) Radioisotopes in soil science; 2) Chemistry of humic substances; 3) Stability of soil minerals; 4) Nitrogen in the soil system – transformations and transport; 5) Chemistry of heavy metals; 6) Chemistry of soil reclamation; 7) Organic chemicals in the soil environment.

Commission III (Soil Biology)

- 1) Tracer aided investigations and modelling of soil organisms and organic matter turnover; 2) Plant-microbial interactions in nutrient absorption; 3) Characterization of soil populations of different climatic regions and effect of environmental parameters on soil processes; 4) The characterization of soil enzymes and their roles; 5) Nitrogen in the soil system, – the role of nitrogen fixation in optimizing the use of soil resources to be emphasized.

Commission IV (Soil Fertility and Plant Nutrition)

- 1) Techniques in soil fertility and plant nutrition research; 2) Wastes as an alternative source of plant nutrients; 3) Root growth in relation to soil physical properties; 4) Nutrient balance in tropical soils; 5) Optimizing soil fertility programs for different climatic regimes.

Commission V (Soil Genesis, Classification and Cartography)

1) Applications of remote sensing in soil science; 2) Innovations in teaching soil genesis and classification; 3) Paleopedology; 4) Theories of soil genesis.

Commission VI (Soil Technology)

1) Terrain sensitivity in tundra ecosystems; 2) Assessment of soil quality for food and fiber production; 3) Implications of climatic change for food and fibre production in humid microthermal regions; 4) System analysis and simulation models in land planning; 5) Advances in fertilizer technology; 6) Soil and climatic limitations to crop production in rainy tropical regions; 7) Technology for reclamation of disturbed lands.

Commission VII (Soil Mineralogy)

1) Crystal chemical properties of clay minerals; 2) Corrosion in soil – chemical and clay mineralogical relationships; 3) Solid state chemistry of Fe and Al in soils; 4) Micromorphological aspects of weathering; 5) Microscopy of soil materials.

Special interest and working groups

The Organizing Committee for the 11th ISSS Congress is anxious to accommodate special interest and working groups that may wish to have meetings during the Congress. There is a Sub-Commission on Salt Affected Soils and seven Working Groups of the Society. In addition, some of the Commissions may wish to have business or other special meetings at times other than those in the program for presentation of papers.

All groups wishing to have a *time* and *accommodation* reserved for such purposes are requested to write: 11th ISSS Congress - Box 78, Sub. 11 - University of Alberta - Edmonton, Canada T6G 2E0 and request such arrangements, indicating approximate number of individuals likely to be involved. It will be the responsibility of each such group to arrange its own agenda.

CONGRESS TOURS

Pre-and Post-Congress Tours

- These tours have been planned and will be offered provided registrations are adequate to offset costs.
- Because of inflation, firm costs cannot be given now. Actual costs should be less than the estimates given. The cost estimates include transportation, meals, lodging and guidebooks. Costs are in Canadian dollars in all cases. *Note that some tours will originate or terminate at places distant from Edmonton. The cost of air transportation between such places and Edmonton has been included in the estimated cost of the tour.*
- Pre-Congress tour routes are given in these descriptions. *Note that those Post-Congress tours marked 'R' travel in the reverse direction (see Map p. 2)*

Pre-Congress Tour No. 1 Post-Congress Tour No. 10R

Eight days. No. 1 to commence June 8; No. 10R to commence June 28.

Maximum anticipated cost: Can \$ 770.

Route: Charlottetown, Prince Edward Island; Amherst, Kentville, Nova Scotia; Quebec City, Drummondville, Montreal, Quebec; Ottawa, Guelph, Ontario; Disperse Toronto, Ontario.

Highlights: The tour examines a range of soils on glaciated terrain across maritime and interior climates, emphasizing management problems for different uses. On the east coast it examines Luvisolic and Podzolic soils on rolling land under mixed farming, silviculture, and orchard. The Quebec portion includes forested Podzols in the Laurentian Highlands, part of the agricultural St. Lawrence Lowlands with Humic Gleysols on marine sediments, and a horticultural area with orga-

nic soils. The Ontario section commences in Ottawa. The Great Lakes Lowlands and peripheral uplands display striking contrasts of geology, vegetation, and low and high intensity uses. Brunisolic, Luvisolic and Gleysolic soil sites are examined. The tour visits Niagara Falls before concluding in Toronto and flying to Edmonton.

**Pre-Congress Tour No. 2
Post-Congress Tour No. 11R**

Five days. No. 2 to commence June 12; No. 11R to commence June 28.

Maximum anticipated cost: Can \$ 425.

Route: Winnipeg, Brandon, Manitoba; Regina, Saskatoon, Saskatchewan; Vermillion, Edmonton, Alberta.

Highlights: This tour by bus traverses the three prairie steppes of Manitoba, Saskatchewan and Alberta. Chernozemic and Solonchic soils and their various uses, both under dryland farming and irrigation will be observed in the Black and Dark Brown soil zones. Minor areas of Brown and Dark Gray soils will be traversed. Glacial landforms and deposits and the subsequent soil development due to variations in regional climatic, vegetative and drainage conditions will be of particular interest to participants from unglaciated areas. Time permitting, points of interest relative to cultural, historical and industrial activities will be visited en route and in Winnipeg, Brandon, Saskatoon and Regina.

**Pre-Congress Tour No. 3
Post-Congress Tour No. 12R**

Eight days. No. 3 to commence June 9; No. 12R to commence June 28.

Maximum anticipated cost: Can. \$ 575.

Route: Vancouver, Hope, Penticton, Vernon, Revelstoke, Golden, British Columbia; Banff, Jasper, Edmonton, Alberta.

Highlights: This tour provides a broad cross-section of southern British Columbia and western Alberta landscapes including mountains, valleys, foothills and plains. The route passes through mixed and grain farming, irrigated tree fruit, forested and recreation areas. Emphasized is the diversity of soil developments occurring in western Canada. Climatic regions ranging from over 250 cm/year of precipitation to less than 25 cm/year will be traversed and elevations will range from sea level to 2,200 m. Examples of Podzolic, Luvisolic, Brunisolic and Chernozemic soil developments will be exhibited and related to vegetation and climatic zones. Spectacular mountain scenery, including the Rocky Mountains, Okanagan Valley, Lake Louise and Columbia Ice Fields will provide interesting settings.

Pre-Congress Tour No. 4

Five days. Tour to commence June 11.

Maximum anticipated cost: Can. \$ 525.

Route: Vancouver, Victoria, Parksville, Tofino, Nanaimo, Vancouver, Edmonton.

Highlights: Originating with a scenic trip by ferry through the islands of the Gulf of Georgia, the tour covers many of the diverse environments encountered on the West Coast of Canada. It includes Brunisolic and Podzolic soils of the mixed farming and urban areas in the Mediterranean-type climate of southeast Vancouver Island. The tour traverses the island through Podzolic soils under highly productive coniferous timber stands to the rainforest on the shores of the Pacific Ocean. The maritime environment, recreational facilities, and the diverse scenery provide an impressive setting for the tour.

**Pre-Congress Tour No. 5
Post-Congress Tour No. 13**

Nine days. No. 5 to commence June 8; No. 13 to commence June 28.

Maximum anticipated cost: Can. \$ 510.

Route: Edmonton, Drumheller, Brooks, Medicine Hat, Alberta; Swift Current, Saskatchewan; Cypress Hills, Lethbridge, Claresholm, Calgary, Lacombe, Edmonton, Alberta.

Highlights: The tour will be going through the mixed farming areas of the parkland region of Central Alberta to the wheat growing areas (prairies) of southern Alberta and southwestern Saskatchewan. It will be passing through cattle ranching areas in the short grass prairie as well as the long grass prairie in the foothills of Alberta. Irrigation will be observed at Brooks, Medicine Hat and Lethbridge. Dryland salinity studies will be visited at Gull Lake, Saskatchewan. The Badlands (Geologic Erosion) along the Red Deer River will be visited as well as a buffalo jump in the Porcupine Hills. Agricultural Research Stations will be visited at Brooks, Swift Current, Lethbridge and Lacombe. Black, Dark Brown and Brown Chernozemic soils will be examined as well as Black and Brown Solonchic soils.

Pre-Congress Tour No. 6
Post-Congress Tour No. 14

Six days. No. 6 to commence June 11; No. 14 to commence June 28.

Maximum anticipated cost: Can. \$ 335.

Route: Edmonton, Red Deer, Rocky Mountain House, Jasper, Hinton, Edmonton, Alberta.

Highlights: This tour traverses three distinctly different physiographic and land use regions in Alberta. Starting near the western fringe of the Great Plains region, where Black Chernozemic soils provide some of Alberta's better agricultural land, the tour moves westward toward the Rocky Mountains into an area of Luvisolic soils and decreased farming activity. In the foothills region, where some forest and mining industries are based, a mixed coniferous and deciduous forest cover prevails on Brunisolic and Luvisolic soils. The western portion of the tour provides some magnificent views of Rocky Mountain scenery within Banff and Jasper National Parks.

Pre-Congress Tour No. 7
Post-Congress Tour No. 15

Eight days. No. 7 to commence June 9; No. 15 to commence June 28.

Maximum anticipated cost: Can. \$ 540.

Route: Fort St. John to Dawson Creek, British Columbia; Grande Prairie, Peace River, Fairview, Grande Prairie, Alberta. (Edmonton to Fort St. John and return by air).

Highlights: This tour covers a portion of the Peace River district in northwestern Alberta and northeastern British Columbia. This area is one of the more recently developed and northern agricultural areas in Canada and is commonly referred to as the last frontier in agriculture. Although a wide variety of agronomic land use enterprises occur, cereal and forage crops predominate over livestock production. Luvisolic, Solonetzic and Chernozemic soils developed from glacial lacustrine and till deposits will be examined. A number of farms will be visited which demonstrate a variety of agronomic practices. In addition, tour participants will have the opportunity to tour an Agricultural Research Station, an Agricultural College, a Power Dam and a Pulp Mill.

Pre-Congress Tour No. 8
Post-Congress Tour No. 16

Five days. No. 8 to commence June 12; No. 16 to commence June 28.

Maximum anticipated cost: Can. \$ 280.

Route: Edmonton, Calgary, Banff, Lake Louise, Jasper, Edmonton, Alberta.

Highlights: This tour provides a broad experience of Alberta landscapes including plains, foothills, and mountains. The tour route traverses farming, ranching, and forested areas of Western Alberta with Chernozemic and Luvisolic soils in the parkland and boreal forest sections of the plains. The forested foothills region, with Luvisolic and Brunisolic soils provides a transition to the Rocky Mountains. The tour concentrates on soils and land use in the mountainous Banff and Jasper National Parks. Spectacular mountain scenery, including Lake Louise and the Columbia Ice Fields, provide an interesting background.

Pre-Congress Tour No. 9
Post-Congress Tour No. 17

One day. No. 9 to commence June 16; No. 17 to commence June 28.

Maximum anticipated cost: Can. \$ 125.

Route: Edmonton to Fort McMurray and return.

Highlights: The purpose of this tour is to show participants the Great Canadian Oil Sands (GCOS) and Syncrude Oil Sands mining operations, oil extraction plants, and land reclamation. A Brunisolic soil will be observed. The bulk of the oil in the Athabasca Oil Sands occurs in the McMurray Formation, which averages about 61 m. (200 ft.) in thickness and is of early Cretaceous age. In some areas the oil sands outcrop at the surface, while in others the overburden may be up to 610 m. (2,000 ft.).

Post-Congress Tour No. 18

Nine days. Tour to commence June 28.

Maximum anticipated cost: Can. \$ 1,300.

Route: Edmonton to Dawson City, Yukon (3 days); to Inuvik, Northwest Territories (4 days) with a side trip to Tuktoyaktuk, Northwest Territories.

Highlights: The theme of the tour will be permafrost in soils and cryogenic processes in pedogenesis. The route crosses the northern Boreal, Subarctic and Arctic regions where sites will include both mineral and organic soils. At Dawson City the history of the Gold Rush of 1898 and

ensuing mining will be seen, as well as a trip to view landforms in an unglaciated Subalpine-Alpine zone. Inuvik is a modern town designed for permafrost conditions. There will be an opportunity for a boat excursion into the Mackenzie Delta and a look at Subarctic ecology. At Tuktoyaktuk on the Arctic coast the tour will include permafrost terrain in the low Arctic and a look at the famous "pingos".

Pre-Congress Local Tours No. V1 and V2 Post-Congress Local Tours No. V3 and V4

One day each. No. V1 and V2 to commence June 8; No. V3 and V4 to commence July 6.

Route: Two Pre- and Post-Congress tours originate in Vancouver, British Columbia, both of which will illustrate agricultural-urban land use conflicts in the Lower Fraser Valley. The major emphasis of Tour V1 and V3 will be on forest management and operations in relation to some of the forest soils at the University of British Columbia Research Forest at Haney. The route from Vancouver to Haney will traverse the north side of the Lower Fraser Valley. Tour V2 and V4 travels south and east of Vancouver via Westham Island, Delta and Abbotsford with the major emphasis on deltaic-marine soils, their use and special management problems. Of interest will be water management features such as new *dyking and pumping facilities*. Also included on this tour are visits to small fruits research plots and two soil pits (Podzolic and Gleysolic soils).

Mid-Congress Local Tours, E1, E2, E3

One day each.

Route: The Edmonton Local Tours have been designed to illustrate soils and land use in the Edmonton region, part of the forest-grassland transition zone of the Great Plains of Canada. Edmonton Local Tour (E1) will take participants south of the city to that portion of the University of Alberta farm at Ellerslie used for soil research (Chernozemic soils) and east into a large stagnant ice moraine (Luvisolic soils). Edmonton Local Tour (E2) will travel east through Elk Island National Park to the Agriculture Canada Solonchic Soil Research Substation at Vegreville (Solonchic soils). Edmonton Local Tour (E3) will travel south to Calmar (Chernozemic soils), then west to Breton and the site of long-term (45 years) research plots on the management of Luvisolic soils.

PRESENTATION OF PAPERS

General Policy

The Organizing Committee for the 11th Congress has introduced some new procedures for the transactions of the Congress and for presentation of papers. The reasons for introducing these new procedures were presented in ISSS Bulletin No. 48, December 1975, p. 4-6 and it is suggested that members refer to this article. The new procedures have been incorporated into the policy for the 11th Congress and the details are presented herein. The number of papers accepted for presentation at plenary sessions, Commission meetings and poster sessions will be restricted to 400.

Transactions

Transactions are the technical publications of the Congress. Papers presented at plenary sessions and by invited speakers at the symposia will be published in full while papers accepted for presentation in Commissions and at Poster sessions will be published in *abstract* form. Instructions regarding papers to be presented by invited speakers will be included in the letters of invitation to those speakers. Abstracts submitted by the authors (including their mailing addresses) will be published in English, French and German. The transactions will be available without charge to Congress participants when they register.

Submission of Papers

Members wishing to present a paper should submit a written copy of their proposed oral presentation (including tables, figures, etc.) but *not exceeding 1,800 words*. These statements hereafter called "Presentation Statements" will be used by the simultaneous interpretation staff when the presentations are made at the Congress. Thus, authors should ensure that the statements are prepared in their final form. The statements will be reviewed by scientists in the various Commissions and will form the

basis for selection of papers to be presented at the Congress. Important criteria for acceptance of papers will be originality of material and their relation to themes of the Commission programs (see accompanying Commission Programs). A limited number of papers will be accepted that are not related to the Congress theme. Authors should indicate the Commission and subject heading where they wish their paper to be considered.

Presentation Statements being submitted should reach the Congress Manager not later than October 1, 1977. An immediate acknowledgment will be made upon receipt of the submission and the author will be advised of the decision regarding acceptance of the paper as promptly as possible, but not later than December 1, 1977. The statements should be typewritten, double spaced on one side of the paper (21 x 28 cm) and in one of the three official languages – English, French or German. It would be greatly appreciated if an English translation could be provided for statements submitted in French or German. Submissions not accepted will be returned to the authors. At the Congress, papers may be presented in the traditional manner or at a poster session (see section on Poster Session presentations herein).

Abstracts

An abstract of 100-150 words must accompany the Presentation Statement. It is hoped that authors will submit abstracts in the three official languages and thereby avoid the need for translation. However, translation can be provided if necessary.

Copies of Submitted Papers

Individuals presenting papers may bring copies of their full papers to the Congress if they so desire. Lists of such papers will be available at the Congress and participants wishing copies of such papers and/or copies of the Presentation Statements may have them reproduced at cost during the Congress.

General Procedure, Guidelines and Conditions

1. Individual scientists may submit only one paper as first author and/or not more than one paper as second author.
2. One of the authors must present the paper.
3. The original and two copies of the Presentation Statements and Abstracts should be sent to: Congress Manager, 11th ISSS Congress, Box 78, Sub. 11. University of Alberta Edmonton, Canada T6G 2E0.
4. Presentation of papers at Commission Sessions:
 - a. A maximum of 25 minutes will be allocated for each paper; approximately 15 minutes for presentation and about 10 minutes for discussion.
 - b. In order to protect the audience from having unsuitable slides and transparencies inflicted upon them, authors of all accepted papers will be provided with explicit guidelines for preparation of slides and transparencies containing tabular or graphical material.
 - c. The Organizing Committee reserves the right to select and edit all submissions and abstracts.

Important Deadlines

Receipt of Presentation Statements and Abstracts: not later than October 1, 1977.

Notification to authors of acceptance of submissions: December 1, 1977.

POSTER SESSIONS

"Poster sessions" are a recent innovation for presentation of scientific reports at large scientific meetings. A limited number of participants in the 11th ISSS Congress will have the opportunity to make such presentations. The authors will be assigned individual areas beside each other. Each author will have a display panel of about 3 square meters on which he or she will mount "posters" for display. The "posters" may consist of tables, graphs, photographs, etc., as well as rather brief statements. All display material should be easily readable at a distance of about 2 meters.

Authors of papers being presented at Poster sessions are expected to be at their displays for periods of two to four hours during the half day for which their presentation is scheduled. They should explain and/or discuss their material with interested participants who visit the display area. Of course, those electing to make Poster presentations may have abstracts, summaries or copies of their papers for distribution to interested visitors. Reproduction facilities will be available for making copies of such materials at cost. Congress participants electing to present their papers at Poster sessions will be provided with detailed explanations and guidelines for preparation of their displays at the time they are notified that their papers have been accepted for presentation at the Congress.

REGISTRATION COSTS

Because of price uncertainties and lack of information regarding the probable registration for the Eleventh ISSS Congress, it is impossible to give firm cost figures at this time. However, to assist interested persons in planning for their participation in the Congress, the following figures are provided:

Registration for Participant	not to exceed Can. \$ 100
(Registration will include the transactions, a banquet and several other items).	
Registration for Accompanying Wife	not to exceed Can. \$ 60.
Accommodation in University Residence, double occupancy, including breakfast, per person, per day	not to exceed Can. \$ 17.
Local one-day soils tours (three options) per tour	not to exceed Can. \$ 20.
Pre-and Post-Congress Tours: See descriptions of individual tours.	

Notes:

1. The Organizing Committee expects actual costs will be less than the above figures. Firm cost figures will be provided with actual registration forms in 1977.
2. University accommodation and space on each of the various tours are limited. Those who return the accompanying Notice of Intent form will be given preference in assigning accommodation at the University and places on the tours of their preference when formal registration forms are distributed in 1977.

Address all correspondence to:

11th ISSS Congress
Box 78, Sub. 11
University of Alberta
Edmonton, Canada T6G 2E0



LE 11^{ème} CONGRÈS DE L'AISS
Edmonton, Canada, 19-27 Juin 1978

PROGRAMME

Thème: Systèmes optimum d'utilisation des sols sous différentes contraintes climatiques.

Séances plénières: D'un point de vue technique, les facteurs limitant la production mondiale d'aliments sont les sols, le climat et notre capacité à adapter les sols et les végétaux à un système de production efficace. Cinq séances plénières du Congrès seront consacrées aux principales zones climatiques du monde. Les conférenciers traiteront:

1. Du sol de ces régions, de leurs limites relatives à la production d'aliments et des contraintes climatiques dominantes;

2. Des principaux systèmes actuels de production agricole comparativement à l'utilisation maximum des sols concernés.

Des spécialistes de renommée internationale discuteront de ces questions pour les cinq principales zones climatiques suivantes: i) polaire; ii) humide microthermique; iii) humide mésothermique; iv) désert et steppe; v) tropicale humide.

Colloques: On prévoit la tenue de six colloques sur les thèmes suivants:

- 1) Activité des isotopes; 2) Système d'information sur les ressources naturelles;
- 3) Détérioration et remise en valeur du sol; 4) Utilisation des sols du nord canadien;
- 5) Structure des sols; 6) Perspectives à long terme sur les relations sol-climat.

Commissions: Les séances des commissions toucheront des sujets d'actualité présentant un intérêt particulier pour les spécialistes des sols, tout en suivant le thème général du Congrès. Certaines séances seront réservées aux sujets d'ordre plus général. Les commissions accorderont leur préférence aux sujets suivants:

Commission I (Physique du sol)

- 1) Les sols gelés; 2) La physique et le génie des sols; 3) La détermination sur les lieux des propriétés physiques du sol.

Commission II (Chimie du sol)

- 1) L'utilisation des radioisotopes dans la science des sols; 2) La chimie des substances humiques; 3) La stabilité des minéraux dans le sol; 4) L'azote dans le sol (transformation et transport); 5) La chimie des métaux lourds; 6) La chimie de la remise en valeur du sol; 7) Les composés organiques dans le milieu pédologique.

Commission III (Biologie du sol)

- 1) Les recherches à l'aide d'indicateurs et la représentation des micro-organismes du sol et de la transformation des matières organiques; 2) Les interactions végétaux-micro-organismes dans l'absorption des matières nutritives; 3) La caractérisation de la flore du sol des différentes zones climatiques et les conséquences des paramètres du milieu sur les processus pédologiques; 4) La caractérisation des enzymes du sol et l'étude de leurs fonctions; 5) L'azote dans le sol (on mettra l'accent sur l'importance du processus de fixation de l'azote dans l'utilisation des sols).

Commission IV (Fertilité du sol et nutrition des plantes)

- 1) Les techniques utilisées dans les recherches sur la fertilité du sol et la nutrition des plantes; 2) L'utilisation des déchets comme nouvelle source d'éléments nutritifs pour les plantes; 3) La croissance racinaire et ses relations avec les propriétés physiques du sol; 4) Le bilan nutritif des sols tropicaux; 5) L'optimisation des programmes en fertilité du sol dans les différents climats.

Commission V (Genèse, classification et cartographie)

1) Les applications de la télédétection dans la science des sols; 2) Les innovations dans l'enseignement de la genèse et de la classification des sols; 3) La paléopédologie; 4) Les théories sur la genèse des sols.

Commission VI (Technologie du sol)

1) La sensibilité des terrains dans les écosystèmes de toundra; 2) L'évaluation de la qualité du sol pour la production d'aliments et de plantes textiles; 3) Les effets des variations climatiques dans les zones humides microthermiques sur la production d'aliments et de plantes textiles; 4) L'analyse des systèmes et les modèles de simulation dans la planification de l'utilisation des terres; 5) Les progrès accomplis dans la technologie des engrais; 6) Les aspects limitatifs du sol et du climat en productions végétales dans les zones tropicales humides; 7) La technologie de la remise en valeur des terres perturbées.

Commission VII (Minéralogie du sol)

1) Les propriétés chimiques cristallines des minéraux argileux; 2) La corrosion du sol (relations chimiques et minéralogiques pour l'argile); 3) La chimie du fer et de l'aluminium à l'état solide dans les sols; 4) Les aspects micromorphologiques de l'altération des matériaux du sol; 5) La microscopie des matériaux du sol.

Groupes spécialisés et groupes de travail

Le Comité organisateur du 11e congrès de l'AISS désire aider les groupes spécialisés et les groupes de travail qui voudraient se réunir durant le Congrès. Il y a la Sous-commission sur les sols salins et les sept groupes de travail de l'Association. En outre, certaines commissions pourraient désirer travailler ou se réunir en dehors des heures prévues par le programme pour la présentation des rapports.

Tous les groupes qui désirent réserver du *temps* et des *locaux* pour de telles fins doivent s'adresser à: Eleventh ISSS Congress, Box 78, Sub. 11, University of Alberta, Edmonton, Canada, T6G 2E0 pour demander que les dispositions nécessaires soient prises en indiquant le nombre approximatif de participants. Chaque groupe devra préparer son propre ordre du jour.

EXCURSIONS DU CONGRÈS

Excursions avant et après le Congrès

- Ces excursions ont été planifiées et seront offertes pourvu que les inscriptions soient suffisantes pour en couvrir les frais.
- A cause de l'inflation, nous ne donnons pas de prix fermes immédiatement. Les prix réels devraient être inférieur aux estimations données. Les coûts estimatifs comprennent le transport, les repas, le logement et les guides descriptifs. Dans tous les cas les coûts sont en dollars canadiens. *Il est à noter que certaines excursions prendront le départ ou se termineront à des endroits éloignés d'Edmonton. Le coût, des excursions comprend par conséquent le prix du transport par avion entre ces localités et Edmonton.*
- Les descriptions ci-dessous tracent l'itinéraire des excursions avant le Congrès. *A noter que les excursions après le congrès marquées 'R' se font dans la direction opposée.* (Voir la carte dans ce Bulletin).

Excursion avant le Congrès No. 1 Excursion après le Congrès No. 10R

Huit jours: No. 1 commence le 8 juin; No. 10R commence le 28 Juin.
Coût maximum prévu: \$ Can. 770.

Itinéraire: Charlottetown, Prince Edward Island; Amherst, Kentville, Nova Scotia; Québec Drummondville, Montreal, Québec; Ottawa, Gelfh, Ontario; conclusion Toronto, Ontario.

Points saillants: Le tour examine une série de sols sur des périmètres d'origine glaciaire, l'accent sera mis sur les problèmes de la mise en valeur et des différents usages de ces sols. Sur la côte Est nous verrons des Luvisols et des Podzols dans des zones ondulées, zones de polyculture, de silviculture et de vergers. Dans la partie du Québec nous verrons des Podzols sous forêt dans les hautes terres des Laurentides, une partie de la zone agricole des basses terres du Saint Laurent avec des Gleysols humiques sur des sédiments marins et des zones d'horticulture sur des sols organiques. La région de l'Ontario commence à Ottawa. La partie basse des Grands Lacs et le pourtour des hautes terres montrera un saisissant contraste en géologie et en végétation. Des sites de Brunisols, de Luvisols et de Gleysols seront examinés. Le tour visite les chutes du Niagara avant de se terminer à Toronto, et du vol vers Edmonton.

Excursion avant le Congrès No. 2 Excursion après le Congrès No. 11R

Cinq jours: No. 2 commence le 12 Juin; No. 11R commence le 28 Juin.

Coût maximum prévu: \$ Can. 425.

Itinéraire: Winnipeg, Brandon, Manitoba; Regina, Saskatoon, Saskatchewan; Vermilion, Edmonton, Alberta.

Points saillants: Ce tour en car traverse les trois prairies steppiques du Manitoba, du Saskatchewan et de l'Alberta. Les sols Chernozemiques et Solonetziques et leurs différents usages sous cultures normales et cultures irriguées seront observés. Les zones de sols à Chernozems Noirs et à Chernozems Bruns foncés seront traversés, ainsi que quelques tronçons à Chernozems gris foncés.

La topographie du terrain, les dépôts glaciaires et le développement du sol sur ces dépôts, développement dû aux variations du climat d'une région à l'autre, la différence dans la végétation et les conditions du drainage seront d'un intérêt particulier pour les participants venus de pays qui n'ont pas subi l'influence de la glaciation.

Si le temps le permet il est prévu de visiter des lieux relatifs à l'agriculture, à l'histoire, aux activités industrielles en route de Winnipeg à Brandon, Saskatoon et Regina.

Excursion avant le Congrès No. 3 Excursion après le Congrès No. 12R

Huit jours: No. 3 commence le 9 Juin; No. 12R commence le 28 Juin.

Coût maximum prévu: \$ Can. 575.

Itinéraire: Vancouver, Hope, Penticton, Vernon, Revelstoke, Golden British Columbia; Banff, Jasper, Edmonton, Alberta.

Points saillants: Ce tour donne un grand aperçu en section traversale du sud de la Colombie Britannique et de l'ouest du Canada, en incluant les montagnes, les vallées, les piémonts et les plaines. Le tour chemine à travers des zones de polyculture de monoculture à céréales, de cultures fruitières, irriguées, de forêts et de périmètres de récréation. L'accent est mis sur la diversité des sols qui se trouvent dans l'ouest du Canada. Les zones climatiques variant entre plus de 250 cm de pluie par année à moins de 25 cm seront traversées et l'altitude varie du niveau de la mer à 2.200 m. Des exemples de sols à développement Podzolique, Luvisolique, Brunisolique et Chernozemique seront étudiés et leur relations avec la végétation et les zones climatiques seront démontrées. Des paysages de montagnes comprenant les montagnes Rocheuses, la vallée de l'Oganagan, le Lac Louise et le Glacier de Columbia offriront des sites intéressants.

Excursion avant le Congrès No. 4

Cinq jours: Commence le 11 Juin.

Coût maximum prévu: \$ Can. 525.

Itinéraire: Vancouver, Victoria, Parksville, Tofino, Nanaimo, Vancouver, Edmonton.

Points saillants: Débutant par un voyage d'agrément autour des îles du golfe de Géorgie, le tour longe différentes parties de la côte ouest du Canada. Cette région présente des zones à sols Brunisoliques et Podzols, des régions à polycultures avec zones urbaines du sud-ouest de l'île de Vancouver, au climat de type méditerranéen. Le tour traverse l'île, où se trouvent des conifères très productifs qui passent progressivement à une forêt à climat océanique sur le bord du Pacifique, région à sols Podzoliques. La proximité de la mer, les facilités pour le tourisme, et la beauté du paysage en font un trajet agréable et intéressant.

Excursion avant le Congrès No. 5 Excursion après le Congrès No. 13

Neuf jours. No. 5 commence le 8 Juin; No. 13 commence le 28 Juin.

Coût maximum prévu: \$ Can. 510.

Itinéraire: Edmonton, Drumheller, Brooks, Medicine Hat, Swift Current (Saskatchewan), Cypress Hills, Lethbridge, Claresholm, Calgary, Lacombe, Edmonton.

Points saillants: L'excursion traversera les régions de polyculture des prairies-parcs du centre de l'Alberta jusqu'aux régions de blé (prairies) dans le sud de l'Alberta et le sud-ouest de la Saskatchewan. Elle traversera les régions d'élevage de bovins, dans les prairies à herbes courtes et les prairies à herbes hautes dans les contreforts de l'Alberta. On pourra observer les terrains irrigués à Brooks, Medicine Hat et Lethbridge. Les études sur la salinité des sols arides retiendront notre attention à Gull Lake en Saskatchewan. Les "Badlands" (érosion géologique) le long de la rivière Red Deer et un saut de la mort des bisons dans les monts Porcupine, que nous visiterons aussi. Nous verrons les stations de recherches agricoles de Brooks, Swift Current, Lethbridge et Lacombe. Des sols chernozémiques (Kastanozems) noirs, brun foncé et bruns seront examinés ainsi que des sols solonetziques noirs et bruns.

**Excursion avant le Congrès No. 6
Excursion après le Congrès No. 14**

Six jours. No. 6 commence le 11 Juin; No. 14 commence le 28 Juin.

Coût maximum prévu: \$ Can. 335.

Itinéraire: Edmonton, Red Deer, Rocky Mountain House, Jasper, Hinton, Edmonton.

Points saillants: Cette excursion traverse trois régions distinctes des points de vue de la physiographie et de l'utilisation des terres en Alberta. Partant de la limite occidentale de la région, des grandes plaines, où les sols chernozémiques noirs offrent certaines des meilleures terres agricoles de l'Alberta, l'excursion se dirige à l'ouest vers les montagnes Rocheuses et pénètre dans une région de sols luvisoliques où l'activité agricole s'atténue. Dans la région des contreforts, où se rencontrent des exploitations forestières et minières, une forêt mixte de conifères et de feuillus couvre des sols brunisoliques (Cambisols) et luvisoliques. La partie ouest de l'excursion nous offre quelques magnifiques paysages des Rocheuses dans les parcs nationaux de Jasper et de Banff.

**Excursion avant le Congrès No. 7
Excursion après le Congrès No. 15**

Huit jours. No. 7 commence le 9 Juin; No. 15 commence le 28 Juin.

Coût maximum prévu: \$ Can. 540.

Itinéraire: Fort St. John à Dawson Creek, C.B.; Grande Prairie, Rivière de la Paix, Fairview, Grande Prairie. (Edmonton à Fort St. John aller-retour, par avion).

Points saillants: Cette excursion comprend une partie de la région de Rivière de la Paix, dans le nord-ouest de l'Alberta et le nord-est de la Colombie-Britannique. Cette région est une de celles qui ont été développées le plus récemment et l'une des régions agricoles les plus septentrionales du Canada aussi l'appelle-t-on l'avant-porte de notre agriculture. Si l'utilisation agricole du sol est très variée, les productions céréalières et fourragères l'emportent sur l'élevage. Nous pourrons examiner des sols luvisoliques solonetziques et chernozémiques formés par des sédiments, lacustres-glaciaire et de moraines. Nous visiterons quelques fermes qui feront ressortir une variété de pratiques agronomiques. De plus, les excursionnistes auront l'occasion de visiter une station de recherches agricoles, un collège d'agriculture, un barrage hydro-electrique, et une usine de pâte à papier.

**Excursion avant le Congrès No. 8
Excursion après le Congrès No. 16**

Cinq jours. No. 8 commence le 12 Juin; No. 16 commence le 28 Juin.

Coût maximum prévu: \$ Can. 280.

Itinéraire: Edmonton, Calgary, Banff, Lac Louise, Jasper, Edmonton.

Points saillants: Cette excursion offre un vaste panorama de l'Alberta, y compris des plaines, des contreforts et des montagnes. Le parcours traverse des régions agricoles, des élevages et des forêts de l'ouest albertain sur des sols chernozémiques noirs et des sols luvisoliques gris dans les prairies-parcs et les forêts boréales des plaines. La région des contreforts boisés sur des sols luvisoliques et brunisoliques (Cambisols) fournit une transition aux montagnes Rocheuses. L'excursion est axée sur les sols et sur l'utilisation des sols dans les montagnes des parcs nationaux de Banff et Jasper. Le panorama spectaculaire des montagnes, comprenant le lac Louise et les champs de glace de Columbia, nous offre un arrière-plan fascinant.

**Excursion avant le Congrès No. 9
Excursion après le Congrès No. 17**

Un jour. No. 9 commence le 16 Juin; No. 17 commence le 28 Juin.

Coût maximum prévu: \$ Can. 125.

Itinéraire: Edmonton à Fort McMurray et retour.

Points saillants: Le but de cette excursion est de montrer aux participants les exploitations des sables bitumineux de la Great Canadian Oil Sands (GCOS) et de la Syncrude Oil Sand, les usines d'extraction de pétrole, et l'assainissement des terrains. Nous pourrons observer un Brunisol

dystrique dégradé (Dystric Cambisol). La majeure partie du pétrole dans les sables bitumineux de l'Athabasca se trouve dans la formation McMurray, d'une moyenne de 61 m (200 pieds) d'épaisseur et qui date du début du Crétacé. Dans certaines régions, les sables bitumineux affleurent, tandis que dans d'autres les matériaux de couverture peuvent atteindre 610 m (2,000 pieds).

Excursion après le Congrès No. 18

Neuf jours. No. 18 commence le 28 Juin.

Coût maximum prévu: \$ Can. 1.300.

Itinéraire: Edmonton à Dawson City, Yukon (3 jours); à Inuvik, Territoires du Nord-Ouest (4 jours) avec prolongement facultatif à Tuktoyaktuk, Territoires du Nord-Ouest.

Points saillants: Le thème de l'excursion sera le pergélisol et le processus cryogénique dans la pédogénèse. Le parcours traverse les régions boréale, subarctique, et arctique où les sites comprendront des sols minéraux et organiques (Cambisols gélifs, Gleysols et Histosols). A Dawson City, nous verrons l'histoire de la Ruée vers l'or de 1898 et les exploitations minières qui en résultèrent, et nous pourrons examiner des formes de terrain dans une zone subalpine et alpine qui n'a pas subi la glaciation. Inuvik est une cité moderne aménagée en fonction du pergélisol. Nous aurons l'occasion de faire une excursion en bateau dans le delta du Mackenzie et d'observer l'écologie subarctique. A Tuktoyaktuk sur la côte de l'Arctique l'excursion nous mènera sur le pergélisol dans le bas Arctique pour un aperçu des fameux "pingos".

Excursions avant le Congrès, No. VI e V2 Excursions après le Congrès No. V3 et V4

Une journée chacune. No. VI et V2 commencent le 8 Juin et les V3 et V4 le 6 Juillet.

Itinéraire: Les excursions antérieures et postérieures au congrès partiront de Vancouver (Colombie-Britannique) et auront toutes pour thème le conflit d'utilisation du sol agricole-urbain dans le bas de la vallée de la rivière Fraser. Durant les excursions VI et V3, on mettra l'accent sur la gestion de la forêt et sur les activités de l'Université de la Colombie-Britannique à Haney sur certains sols forestiers. De Vancouver à Haney, le parcours traversera la rive nord du bas de la vallée de la rivière Fraser. Les excursions V2 et V4 passeront au sud et à l'est de Vancouver en direction de Westham Island, Delta et Abbotsford et seront principalement consacrées aux sols d'alluvions deltaïques, à leur utilisation et à leurs problèmes particuliers de gestion. Les excursions comprendront aussi la visite de nouvelles installations de barrages et de pompage, de même que celle de terrains de recherches sur les petits fruits et celle de deux coupes de sols podzolique et gleysolique.

Excursions locales intermédiaires, E1, E2, E3

Une journée chacune.

Itinéraire: Les excursions locales à Edmonton sont conçues pour illustrer l'utilisation des sols et des terres dans la région d'Edmonton, qui fait partie de la zone de transition entre la forêt et les herbages dans les grandes plaines du Canada. L'excursion locale d'Edmonton (E1) amènera les participants au sud de la ville vers la partie de la Ferme de l'Université de l'Alberta à Ellerslie qui sert aux recherches sur les sols (Chernozem noir - Chernozem luvique) et à l'est dans une grande moraine de glace stagnante (Luvisol gris orthique - Luvisol albique). L'excursion locale d'Edmonton (E2) se dirigera vers l'est, traversant le parc national d'Elk Island jusqu'à la sous-station de recherches sur les sols solonchiques d'Agriculture Canada à Vegreville (Solonetz noir - Solonetz mollique). L'excursion locale d'Edmonton (E3) se dirigera vers le sud à Calmar (Chernozem noir - Chernozem luvique), ensuite vers l'ouest à Breton et les parcelles de recherches à long terme (45 ans) sur la gestion des luvisols gris orthiques (Luvisols albiques).

PRÉSENTATION DES COMMUNICATIONS

Dispositions générales

Le Comité organisateur du 11e Congrès a apporté quelques modifications à la marche à suivre utilisée pour les comptes rendus du Congrès et la présentation des communications. Les raisons à l'origine de ces modifications ont été expliquées dans le bulletin No. 48 de l'AISS, (décembre 1975, p. 6 à 8) et nous encourageons nos membres à en prendre connaissance. Cette nouvelle procédure est inspirée par la politique générale de l'Association et on en trouvera la description détaillée ci-dessous. Le nombre de communications accepté pour les séances plénières, les réunions des Commissions et les séances de présentations posters ne dépassera pas 400.

Comptes Rendus

Les Comptes rendus sont les publications techniques du Congrès. Les communications présentées aux séances plénières et celles des conférenciers invités seront publiées en entier; les exposés aux séances des Commissions et de présentations, seront publiés sous forme de *5résumé*. Les directives concernant la présentation des exposés seront précisées dans les lettres d'invitation aux conférenciers. Les résumés seront publiés en anglais, en français et en allemand (y compris l'adresse des auteurs). Les participants pourront se procurer gratuitement les comptes rendus du Congrès au moment de leur inscription.

Présentation des communications

Les membres qui désirent présenter une communication doivent soumettre une version écrite de leur exposé (y compris les tableaux, les illustrations, etc.) *n'excédant pas 1800 mots*. Ces textes, que nous appellerons Exposés écrits aideront les interprètes dans leur tâche au moment de la présentation. Ces exposés écrits devront être rédigés sous leur forme définitive. Ils seront examinés par des scientifiques des différentes Commissions et serviront de base à la sélection des textes. L'originalité du matériel et ses liens avec les thèmes qui seront débattues par les Commissions constituent d'importants critères de sélection (voir Programme des Commissions). Le nombre de communications accepté ne portant pas sur le thème du Congrès sera restreint. L'auteur doit préciser le sujet et la Commission pour laquelle il désire soumettre son texte.

Les exposés écrits doivent parvenir au directeur du Congrès au plus tard le 1er octobre 1977. Chaque envoi fera l'objet d'un accusé de réception et les auteurs seront avisés de l'acceptation ou du refus de leur texte au plus tard le 1er décembre 1977. Le manuscrit doit être dactylographié à double interligne, au recto seulement d'une feuille de 21 sur 28 cm et doit être rédigé en anglais, en français ou en allemand. Dans la mesure du possible, chaque texte français ou allemand sera accompagné de sa traduction anglaise. Les textes refusés seront retournés à leur auteur. Au congrès, les exposés seront présentés de la façon traditionnelle ou au cours de séances spéciales (voir les séances posters).

Résumés

Chaque exposé écrit sera accompagné d'un résumé de 100 à 150 mots dans chacune des trois langues officielles, si c'est possible, afin de supprimer les besoins de traduction. Des services en ce domaine seront toutefois disponibles le cas échéant.

Exemplaires des communications

S'ils le désirent, les conférenciers pourront apporter au Congrès la version intégrale de leur communication. Une liste de ces dernières sera disponible sur les lieux et les membres qui en feront la demande pourront se procurer une photocopie des documents ou des exposés écrits à prix coûtant au cours du Congrès.

Procédures, directives et conditions générales

1. Les chercheurs ne peuvent présenter qu'une seule communication comme auteur principal et (ou) pas plus d'une comme second auteur.
2. Un des auteurs devra présenter la communication au congrès.
3. L'original et les deux exemplaires de l'exposé écrit et du résumé doivent être envoyés à l'adresse suivante: Congress Manager, 11th ISSS Congress, Box 78, Sub. 11, University of Alberta, Edmonton (Canada), T6G 2E0.
4. Présentation des communications aux séances des Commissions:
 - a. Un maximum de 25 minutes sera accordé à chaque exposé, soit environ 15 minutes pour la présentation et 10 pour les débats.
 - b. Afin de ne pas ennuyer l'auditoire avec du matériel inutile, les auteurs des communications acceptées recevront des directives détaillées sur la préparation des diapositives et des présentations visuelles de tableaux et de graphiques.
 - c. Le Comité organisateur se réserve le droit de choisir et de publier les communications et les résumés.

Dates limites

Réception des exposés écrits et des résumés: le 1^{er} octobre 1977.

Avis d'acceptation des communications aux auteurs: le 1^{er} décembre 1977.

SÉANCES "POSTERS"

Ces séances constituent une innovation pour la présentation de rapports à d'importantes réunions scientifiques. Un nombre limité de participants au 11^e Congrès de l'Association auront l'occasion de faire de telles présentations.

Les auteurs se verront attribuer des emplacements individuels et contigus. Chaque auteur disposera d'un panneau de présentation d'environ 3m² graphiques, photos, etc., ainsi que de brefs énoncés. Tout matériel de présentation doit être facilement lisible à une distance d'environ 2m.

Les auteurs de communications présentées à ces séances devraient se tenir sur les lieux pour des périodes de deux à quatre heures durant la demi-journée de leur présentation. Ils seront appelés à faire connaître et à expliquer leur matériel aux participants intéressés à visiter l'exposition. Ceux qui choisissent de faire des présentations de "posters" peuvent évidemment distribuer des résumés, des sommaires ou des exemplaires de leurs communications aux visiteurs. Des appareils seront disponibles pour photocopier ce matériel à prix coûtant. Les participants qui désirent présenter leurs communications à ces séances recevront des explications détaillées et des directives sur la préparation de leur exposition au moment où ils seront avisés que leurs communications ont été acceptées.

DROITS D'INSCRIPTION

Vu l'incertitude des prix et le manque de renseignements sur les possibilités d'inscription au 11^e Congrès de l'Association, il nous est impossible de donner présentement des chiffres précis. Toutefois, pour aider les intéressés à projeter leur participation au Congrès, voici certains chiffres approximatifs:

Inscription des participants au plus \$ Can. 100
(L'inscription comprendre les comptes rendus, un banquet et plusieurs autres éléments).

Inscription des conjoints, etc au plus & Can. 60.

Logement en résidence universitaire, chambre à deux personnes, déjeuner compris par personne et par jour au plus & Can. 17.

Excursions locales d'étude de sols de 1 jour (trois choix) au plus \$ Can. 20

Excursion avant et après le Congrès: Voir les descriptions des excursions individuelles.

Notes:

1. Le Comité orgnaisateur prévoit que les coûts réels seront moins élevés que les chiffres susmentionnés. Les coûts précis seront fournis en 1977 avec les formulaires d'inscription officiels.

2. Le logement à l'université et les places pour chacun des diverses excursions sont limités. Ceux qui renverront le Bulletin d'intention annexé se verront accorder la préférence pour l'attribution des logements à l'université et des places pour les excursions de leur choix, lorsque les formulaires d'inscription officiels seront distribués en 1977.

Envoyez toute correspondance à l'adresse suivante:

11th ISSS Congress,
Box 78, Sub. 11,
University of Alberta,
Edmonton, Canada T6G 2E0



11. KONGRESS DER INTERNATIONALEN BODENKUNDLICHEN GESELLSCHAFT

Edmonton, Kanada, 19.-27. Juni, 1978

KONGRESSPROGRAMM

Thema: Optimale Bodennutzungssysteme bei unterschiedlichen klimatischen Grenzbedingungen.

Plenarsitzungen: Vom technischen Standpunkt aus ist die Nahrungsmittelproduktion der Welt limitiert durch die Faktoren Boden und Klima, und durch die Fähigkeit des Menschen, Böden und Pflanzen in einem wirksamen Produktionssystem zu vereinigen. Fünf Plenarsitzungen des 11. IBG-Kongresses werden den bedeutendsten Klimazonen gewidmet zu welchen die folgenden Hauptreferate abgehalten werden:

1. die Böden, ihre wesentlichen Begrenzungen für die Nahrungsmittelproduktion, und die limitierenden klimatischen Grenzbedingungen;

2. die derzeit wichtigsten Bewirtschaftssysteme im Vergleich zur optimalen Nutzung der betreffenden Böden.

Diese Themen werden von eingeladenen Wissenschaftlern von internationalem Ruf für jede der fünf folgenden bedeutendsten Klimazonen diskutiert werden:

i) polare Zone, ii) feuchte mikrothermale Zone, (iii) feuchte mesothermale Zone, iv) Wüste- und Steppenzone, v) tropische Regenzone.

Symposien: Es sind sechs Symposien geplant, die sich mit den folgenden Themen befassen werden:

1) Isotopen in Aktion; 2) Boden-Informationssysteme; 3) Bodendeteriorierung und Verbesserung; 4) Nutzung der Nord-kanadischen Böden; 5) Bodenstruktur; 6) Langfristige Beobachtung der Wechselbeziehungen zwischen Boden und Klima.

Kommissionen: Die in den Kommissionen vorzutragenden Abhandlungen behandeln Themen von hochaktuellem Interesse für Bodenkundler, sollten aber auch auf das allgemeine Kongressthema ausgerichtet sein. Einige Sitzungen der Kommissionen sind für Abhandlungen über Themen von allgemeinem Interesse reserviert. Die Kommissionen werden Abhandlungen über folgende Themen vorziehen:

Kommission I (Bodenphysik)

1) Frostböden; 2) Bodenphysik und Bodentechnik; 3) Feldmessungen physikalischer Eigenschaften.

Kommission II (Bodenchemie)

1) Radioisotopen in der Bodenkunde; 2) Chemie der Humussubstanzen; 3) Stabilität der Bodenmineralien; 4) Stickstoff im Bodensystem - Umsatz und Bewegung; 5) Chemie der Schwermetalle; 6) Chemie der Bodenverbesserung; 7) Organisch-chemische Stoffe im Boden.

Kommission III (Bodenbiologie)

1) Untersuchungen und Erstellung von Modellen von Bodenorganismen und der Umwandlung organischer Stoffe mit Hilfe markierter Substanzen; 2) Pflanzen-Mikroben Wechselwirkungen bei der Nährstoffaufnahme; 3) Charakterisierung der Bodenfauna und -flora verschiedener Klimazonen und die Wirkung von Umweltparametern auf die Bodenprozesse. 4) Charakterisierung der Bodenenzyme und ihrer Wirkung; 5) Stickstoff im Bodensystem - die Rolle der Stickstofffestlegung bei der angestrebten Optimierung der Bodennutzung.

Kommission IV (Bodenfruchtbarkeit und Pflanzenernährung)

1) Versuchsmethoden auf dem Gebiet der Bodenfruchtbarkeit und Pflanzenernährung; 2) Abfallstoffe als alternative Quelle von Pflanzennährstoffen; 3) Wurzelwachstum in Beziehung zu den physikalischen Eigenschaften des Bodens; 4) Gleichgewicht der Nährstoffe in tropischen Böden; 5) Erstellung optimaler Bodenfruchtbarkeitsprogramme für verschiedene Klimate.

Kommission V (Bodengenetik, Klassifikation und Kartographie)

1) Anwendung von Fernerkundung in der Bodenkunde; 2) Neuerungen beim Lehren der Bodengenetik und Klassifikation; 3) Paläopedologie; 4) Theorien der Bodengenetik.

Kommission VI (Bodentechnologie)

1) Empfindlichkeit des Geländes in ökologischen Tundrasystemen; 2) Bodenbonitierung für Nahrungsmittel- und Fasererzeugung; 3) Auswirkungen von klimatischen Veränderungen auf die Nahrungsmittel- und Fasererzeugung in feuchten mikrotropicalen Zonen; 4) Systemanalyse und simulierte Modelle in der Landesplanung; 5) Fortschritte in der Düngemitteltechnologie 6) Boden- und Klimagrenzbedingungen für die Pflanzenproduktion in regenfeuchten Tropenregionen; 7) Technologie der Melioration von degradiertem Land.

Kommission VII (Bodenmineralogie)

1) Kristallchemische Eigenschaften von Tonmineralien; 2) Korrosion des Bodens - chemische und tonmineralogische Zusammenhänge; 3) Feststoffchemie von Fe und Al in Böden; 4) Mikromorphologische Aspekte der Verwitterung; 5) Mikrotechnik der Bodenmaterialien.

Besondere Interessen und Arbeitsgruppen

Das Organisationskomitee des 11. IBG-Kongresses wird sich bemühen besondere Interessen- und Arbeitsgruppen, die während des Kongresses Sitzungen abhalten wollen, unterzubringen. Es gibt eine Subkommission für Salzböden und sieben Arbeitsgruppen der Gesellschaft. Ausserdem ist es möglich, dass einige der Kommissionen Verhandlungen oder andere spezielle Sitzungen ausserhalb der im Vortragsprogramm vorgesehenen Zeit abzuhalten wünschen.

Alle Gruppen, die wünschen im Zeitplan des Kongresses berücksichtigt zu werden, sollten sich wie folgt anmelden: 11th ISSS Congress, Box 87, Sub. 11, University of Alberta, Edmonton, Canada T6G 2E0, und die nötigen Vorbereitungen erbitten, wobei die Anzahl der interessierten Personen anzugeben ist. Jede dieser Gruppen ist für ihren eigenen Zeitplan verantwortlich.

KONGRESSEXKURSIONEN

Exkursionen vor und nach dem Kongress

- Diese Exkursionen sind geplant und werden abgehalten unter der Bedingung dass die Teilnahme eine Kostendeckung ermöglicht.
- Wegen der Inflation der Preise können noch keine genauen Kosten angegeben werden, sie werden aber wahrscheinlich unter den veranschlagten liegen. Die geplanten Kosten enthalten Transport, Mahlzeiten, Unterbringung und Exkursionsführer. *Es ist zu beachten, dass einige Exkursionen beginnen oder beendet werden in Orten die von Edmonton entfernt sind. Die Kosten des Lufttransportes zu und von diesen Orten sind in den veranschlagten Preisen der Touren enthalten. Die Kosten sind in kanadischen Dollar angegeben.*
- Touren vor dem Kongress sind in diesen Beschreibungen enthalten (siehe Karte). *Die Exkursionen nach dem Kongress sind mit "R" bezeichnet und Verlaufen in der entgegengesetzten Richtung.*

**Exkursion vor dem Kongress Nr. 1
Exkursion nach dem Kongress Nr. 10R**

Acht Tage. Nr. 1 beginnt am 8. Juni; Nr. 10R beginnt am 28. Juni.

Maxima veranschlagte Kosten: Kan. \$ 770-

Route: Charlottetown, Prince Edward Island; Amherst, Kentville, Nova Scotia; Quebec City, Drummondville, Montreal, Quebec; Ottawa, Guelph, Ontario; Beendet Toronto, Ontario.

Höhepunkte: Während der Exkursion werden eine Anzahl von verschiedenen Böden in ver-gletschertem Terrain quer durch Meeres- und Inland Klima untersucht, wobei Bewirtschaftungs-probleme für verschiedene Bodennutzung betont werden. An der Ost-Küste werden Luvisol- und Podsolböden in Hügelland und mit gemischtwirtschaftlichen Betrieben, Forstwirtschaft und Obstkul-tur untersucht. Der Quebecsektor schliesst bewaldete Podsole in den Laurentian Highlands ein, weiterhin einen Teil der für die Landwirtschaft genutzten St. Lawrence Lowlands mit Wiesenböden auf Meeressedimenten, und eine Gartenbaugegend mit organischen Böden. Der Ontario-Sektor beginnt in Ottawa. Die Great Lakes Lowlands und das umliegende Hochland weisen sehr auffallende Kontraste im Bezug auf Geologie, Vegetation, sowie extensive und intensive Bodennutzung auf. Braunerden, Luvisol- und Gleyböden werden untersucht werden. Die Tour besucht die Niagara Fälle vor dem Rückflug nach Edmonton von Toronto aus.

**Exkursion vor dem Kongress Nr. 2
Exkursion nach dem Kongress Nr. 11 R**

Fünf Tage. Nr. 2 beginnt am 12. Juni; Nr. 11 R beginnt am 28. Juni.

Maximal veranschlagte Kosten: Kan. \$ 425-

Route: Winnipeg, Brandon, Manitoba; Regina, Saskatoon, Saskatchewan; Vermillion, Edmon-ton, Alberta.

Höhepunkte: Diese Autobustour durchkreuzt die drei Präriesteppen von Manitoba, Saskatche-wan und Alberta. Schwarzerde- und Solonetzböden, mit und ohne Bewässerung, Können in den Zonen schwarzer und dunkelbrauner Böden beobachtet werden. Kleinere Zonen mit braunen und dunkelgrauen Böden werden durchkreuzt. Eiszeitliche Landformen und Ablagerungen und die nach-folgende Entwicklung der Böden infolge von Veränderungen der regionalen Klima-, Wachstum-, und Entwässerungsbedingungen werden besonders für Teilnehmer aus nicht eiszeitlich beeinflussten Gegenden von Interesse sein. Sollte es die Zeit erlauben werden Lokalitäten von kulturellem, geschichtlichem oder industriellem Interesse en route von Winnipeg, Brandon, Saskatoon bis Regina besucht werden.

**Exkursion vor dem Kongress Nr. 3
Exkursion nach dem Kongress Nr. 12 R**

Acht Tage. Nr. 3 beginnt am 9. Juni; Nr. 12 R Beginnt am 28. Juni.

Maximal veranschlagte Kosten: Kan. \$ 575-

Route: Vancouver, Hope, Penticton, Vernon, Revelstoke, Golden, British Columbia; Banff, Jasper, Edmonton, Alberta.

Höhepunkte: Diese Exkursion vermittelt einen breiten Querschnitt von südlichen British Columbia und westlichen Alberta-Landschaften einschliesslich Berge, Täler, Vorgebirge und Ebenen. Die Route zieht sich durch Zonen mit gemischtwirtschaftlichen und Getreidebaubetrieben, bewäs-serten Obstbaubetrieben, Wald- und Erholungsgebieten. Hervorstechend ist die Verschiedenheit der Bodenentwicklung, des Klimas und der Topographie in West-Kanada. Niederschläge bewegen sich von 250 mm bis zu 2500 mm pro Jahr; Höhen schwanken zwischen Meereshöhe und 2.200 m. Beispiele von podsolische, luvisolischen, braunerdigen und schwarzerdigen Bodenentwicklungen wer-den demonstriert und in Beziehung zu Vegetation und Klimazonen gestellt werden. Spektakuläre Gebirgsgegenden, die die Rocky Mountains, Okanagan Valley, Lake Louise und die Columbia Eisfel-der umfassen werden einen interessanten Rahmen bieten.

Exkursion vor dem Kongress Nr. 4

Fünf Tage. Die Tour beginnt am 11. Juni.

Maximal veranschlagte Kosten: Kan. \$ 525-

Route: Vancouver, Victoria, Parksville, Tofino, Nanaimo, Vancouver, Edmonton.

Höhepunkte: Beginnend mit einer abwechslungsreichen Reise mit Fähre zwischen den Inseln des Golfes von Georgia, beinhaltet diese Exkursion viele der verschiedenen Gegenden typisch für die West-Küste von Kanada, Braunerde- und Podsolböden in Zonen mit gemischtwirtschaftlichen Betrie-ben und Siedlungen unter dem mediterranen Klima des südöstlichen Teiles der Vancouver Island. Die Tour führt über die Insel durch podsolige Böden unter hochproduktiven Nadelwäldern bis zu den Regenwäldern des Pazifischen Ozeans. Die Meereslandschaften, Erholungsanlagen, und die abwechslungsreiche Landschaft geben einen eindrucksvollen Hintergrund für diese Tour.

**Exkursion vor dem Kongress Nr. 5
Exkursion nach dem Kongress Nr. 13**

Neun Tage. Nr. 5 beginnt am 8. Juni; Nr. 13 beginnt am 28. Juni.

Maximal veranschlagte Kosten: Kan. \$ 510-

Route: Edmonton, Drumheller, Brooks, Medicine Hat, Alberta; Swift Current, Saskatchewan; Cypress Hills, Lethbridge, Claresholm, Calgary, Lacombe, Edmonton, Alberta.

Höhepunkte: Die Tour führt durch Gebiete mit gemischtwirtschaftlichen Betrieben der Parkzone von Zentral-Alberta bis zu den Weizenbaugebieten (Prairie) von Süd-Alberta und Südwest-Saskatchewan. Sie durchquert die Viehzuchtgebiete der Kurzgrasprairie sowie auch der Hochgrasprairie im Hügelvorland von Alberta. Bewässerungsanlagen werden in Brooks, Medicine Hat und Lethbridge besucht werden. Untersuchungen an trockenen Salzböden werden am Gull Lake, Saskatchewan, besichtigt. Längs des Red Deer River werden die Badlands (geologische Erosion) besucht und auch ein "buffalo jump" in den Porcupine Hills. Landwirtschaftliche Untersuchungsstationen werden in Brooks, Swift Current, Lethbridge und Lacombe besucht. Schwarze, dunkelbraune und braune Schwarzerdeböden sowie schwarze und braune Solonetzböden sind zu sehen.

**Exkursion vor dem Kongress Nr. 6
Exkursion nach dem Kongress Nr. 14**

Sechs Tage. Nr. 6 beginnt am 11. Juni; Nr. 14 beginnt am 28. Juni.

Maximal veranschlagte Kosten: Kan. \$ 335-

Route: Edmonton, Red Deer, Rocky Mountain House, Jasper, Hinton, Edmonton, Alberta.

Höhepunkte: Diese Exkursion durchquert drei deutlich zu unterscheidende physiographische und Landnutzungszonen. Beginnend vom westlichen Ende der Great Plain Zone, wo sich auf Grund der schwarzen Schwarzerdeböden das beste landwirtschaftlich nutzbare Land findet führt die Tour gegen die Rocky Mountains in eine Zone mit Luvisolböden und weniger landwirtschaftlicher Nutzung. Im Gebiet der Vorberge mit einigen Forst- und Bergbaugebieten, herrscht gemischter Nadel- und Laubwald auf Braunerde und Luvisolböden vor. Der westliche Teil der Tour bietet wunderbare Ausblicke auf die Rocky Mountains im Banff und Jasper National Park.

**Exkursion vor dem Kongress Nr. 7
Exkursion nach dem Kongress Nr. 15**

Acht Tage. Nr. 7 beginnt am 9. Juni. Nr. 15. beginnt am 28. Juni.

Maximal veranschlagte Kosten: Kan. \$ 540-

Route: Fort St. John bis Dawson Creek, British Columbia; Grande Prairie, Peace River, Fairview, Grande Prairie, Alberta. (Edmonton nach Fort St. John und zurück mit Flugzeug).

Höhepunkte: Diese Tour führt durch einen Teil des Peace River Bezirkes in Nord-west Alberta und Nord-ost British Columbia. Dieses Gebiet ist eines der erst kürzlich aufgeschlossenen und nördlichen landwirtschaftlich genutzten Gebiete in Kanada und wird allgemein "last frontier in agriculture" genannt. Obwohl es dort eine grosse Zahl verschiedener landwirtschaftlicher Betriebsformen gibt, dominieren Getreide- und Futtererzeugung gegenüber der Tierproduktion. Luvisol-Braunerde und Schwarzerdeböden die aus eiszeitlichen Randablagerungen entstanden sind und Geschiebemergel werden untersucht werden. Eine Anzahl von Höfen, die die Vielfalt landwirtschaftlicher Methoden demonstrieren, werden besichtigt. Ausserdem haben die Teilnehmer Gelegenheit eine landwirtschaftliche Versuchsstation, ein Bodenkultur-Institut, ein Elektrizitätswerk und eine Papierfabrik zu besuchen.

**Exkursion vor dem Kongress Nr. 8
Exkursion nach dem Kongress Nr. 16**

Fünf Tage. Nr. 8 beginnt am 12. Juni. Nr. 16 beginnt am 28. Juni.

Maximal veranschlagte Kosten: Kan. \$ 280-

Route: Edmonton, Calgary, Banff, Lake Louise, Jasper, Edmonton, Alberta.

Höhepunkte: Die Tour umfasst die abwechslungsreichen und für die Alberta-Landschaft typischen Zonen nämlich Ebenen, Vorgebirge und Berggebiete. Sie durchquert Landbau-, Tierzucht-, und Forstgebiete von West-Alberta mit Schwarzerde- und Luvisolböden in den parkartigen und dem Nordwind ausgesetzten Forstzonen der Ebenen. Die Region der bewaldeten Vorgebirge, mit Luvisol- und Braunerdeböden, vermittelt einen Übergang zu den Rocky Mountains. Die Exkursion konzentriert sich hauptsächlich auf Böden und Landnutzung in dem gebirgigen Banff und Jasper Nationalpark. Fantastische Gebirgsgegenden, einschliesslich Lake Louise und die Columbia Eisfelder, bieten einen interessanten Hintergrund.

**Exkursion vor dem Kongress Nr. 9
Exkursion nach dem Kongress Nr. 17**

Einen Tag. Nr. 9 beginnt am 16. Juni. Nr. 17. beginnt am 28. Juni.

Maximal veranschlagte Kosten: Kan. \$ 125-

Route: Edmonton nach Fort McMurray und zurück.

Höhepunkte: Die Tour soll den Teilnehmern die "Great Canadian Oil Sands" (GCOS) und "Synchrude Oil Sands" Minenanlagen, Erdölextraktionsanlagen und Land-Melioration zeigen. Ein Braunerdeboden wird untersucht werden. Der grösste Teil des Öls der Athabasca Ölsände kommt in der McMurray Formation vor, ist durchschnittlich 61 m (200 ft) tief gelagert und stammt aus der frühen Kreidezeit. In einigen Gegenden haben sich die Ölsände bis an die Oberfläche verlagert, in anderen findet man Überlagerungen bis zu 610 m (2 000 ft) tief.

Exkursion nach dem Kongress Nr. 18

Neun Tage. Beginn am 28. Juni.

Maximal veranschlagte Kosten: Kan. \$ 1.300-

Route: Edmonton nach Dawson City, Yukon (drei Tage); nach Inuvik, Northwest Territories (4 Tage) mit einem Tagesausflug nach Tuktoyaktuk, Northwest Territories.

Höhepunkte: Die Tour steht unter dem Motto Permafrost in Böden und kryogenetische Prozesse der Bodengenetik. Die Tour führt durch die borealen, subarktischen und arktischen Regionen, wo die besuchten Stellen mineralische und organische Böden aufweisen werden. In Dawson City demonstriert sich die Geschichte des Goldfiebers des Jahres 1898 und der darauffolgende Bergbau, ausserdem wird eine Exkursion unternommen, bei der Bodenformen in einer unvergletscherten Subalpinen Zone beobachtet werden können. Inuvik ist eine moderne Stadt, die für Permafrost-Bedingungen ausgelegt wurde. Es wird auch ein Boots-ausflug in das Mackenzie Delta angeboten, wobei Einsicht in die subarktische Ökologie genommen werden kann. In Tuktoyaktuk an der arktischen Küste führt die Tour durch Permafrost Terrain in der Nieder-Arktik, weiter können die berühmten "pingos" besucht werden.

**Lokale Exkursion vor dem Kongress Nr. V1 und V2
Lokale Exkursion nach dem Kongress Nr. V3 und V4**

Je einen Tag. Nr. V1 und V2 beginnen am 8. Juni; Nr. V3 und V4 beginnen am 6. Juli.

Zwei Touren sowohl vor als auch nach dem Kongress beginnen in Vancouver, British Columbia, und zeigen beide den Konflikt zwischen landwirtschaftlicher und urbaner Landnutzung. Die Touren V1 und V3 konzentrieren sich hauptsächlich auf Forstbewirtschaftung und Betriebe im Zusammenhang mit einigen Forstböden an der Versuchsstation der Universität British Columbia in Haney. Die Route von Vancouver nach Haney durchquert die Nordseite des Lower Fraser Tales. Die Touren V2 und V3 führen nach Süden und Osten von Vancouver über die Westham Insel, Delta und Abbotsford mit Betonung der Delta-Küstenböden, deren Nutzung und die besonderen Bewirtschaftungsprobleme. Von grossen Interesse werden die wasserwirtschaftlichen Anlagen wie neue Eindeichung und Pumpenanlagen sein. Besuche bei kleinen Obstbau-Versuchsanlagen und zwei Bodenprofile (podsolige und Gleyböden) sind in dieser Tour enthalten.

Lokale Exkursionen während des Kongresses E1, E2 und E3

Je einen Tag. Die "Edmonton Local Tours" sollen Boden und Landnutzung in der Edmonton Zone demonstrieren, diese Region gehört zu der Übergangszone vom Wald zum Grasland der kanadischen "Great Plains". Die "Edmonton Local Tour (E1)" bringt die Teilnehmer südlich der Stadt zur Bodenversuchsstation der University of Alberta in Elerslie (Schwarzerdeböden) und ostwärts in eine grosse ruhende Eismoräne (Luvisolböden). Die "Edmonton Tour (E2)" führt östlich durch den Elk Island National Park an die Nebenversuchsstation für Solonetzböden der kanadischen Landschaft in Vegreville (Solonetzböden). Die "Edmonton Local Tour (E3)" bringt die Teilnehmer nach Calmar (Schwarzerdeböden), dann westlich nach Breton und zu einem Platz mit langfristigen Versuchen (45 Jahre) über die Bewirtschaftung von Luvisol böden.

VORTRAG DER REFERATE

Allgemeines Verfahren

Das Organisationskomitee für den 11. IBG-Kongress hat ein neues Verfahren zur Abwicklung des Kongresses und des Vortrages der Referate eingeführt. Der Grund für diese Veränderungen wurde schon in IBG Bulletin Nr. 48 vom Dezember 1975, Seite 8-10, erklärt. Das neue Verfahren ist in den Richtlinien für den 11. IBG-Kongress enthalten und besagt: in Übereinstimmung mit der IBG-Auffassung ist die Anzahl der Referate für die Plenarsitzung, die Kommissionen und die Poster-Vorträge auf 400 begrenzt.

Kongressdokumentation

Die Kongressdokumentation sind die Fachreferate des Kongresses. Während Referate zu den Plenarsitzungen und von eingeladenen Referenten zu den Symposien voll abgedruckt werden, werden die Beiträge zu den Kommissionen oder Poster-Vorträge nur in Kurzform abgedruckt. Anleitungen zur Vorbereitung der Referate von den eingeladenen Referenten werden in den Einladungsbriefen an diese Sprecher enthalten sein. Die von den Autoren vorgelegten Kurzfassungen (einschliesslich ihrer Postanschrift) werden in Englisch, Französisch und Deutsch veröffentlicht. Die Kongressdokumentation wird den Kongressteilnehmern frei bei ihrer Anmeldung überreicht werden.

Einreichung der Referate

Mitglieder, die die Absicht haben eine wissenschaftliche Abhandlung vorzutragen, sollten eine Kopie ihres Wortbeitrages (einschliesslich Tabellen, Ziffern, etc., insgesamt nicht mehr als 1800 Worte) einreichen. Diese Referate werden von den Simultandolmetschern während des Vortrages zum Kongress verwendet werden. Die Autoren sollten sich daher vergewissen dass die Eingaben in ihrer Endfassung eingereicht werden. Die Eingaben werden dann von Wissenschaftlern der verschiedenen Kommissionen untersucht und zur Auswahl für den Vortrag während des Kongresses vorgelegt. Die für die Annahme der Beiträge ausschlaggebenden Kriterien sind Originalität des Materiales und ihre Übereinstimmung mit den in den Kommissionsprogrammen gestellten Themen (siehe beigelegtes Kommissionsprogramm). Die Autoren werden gebeten die Kommission und den Untertitel unter dem sie ihren Beitrag vortragen möchten, anzugeben. Eingereichte Referate sollten die Kongressorganisation nicht später als 1. Oktober 1977 erreichen. Eine Bestätigung wird sofort bei Erhalt des Beitrages versandt. Der Autor wird über die Entscheidung hinsichtlich der Annahme des Beitrages so bald als möglich, nicht später als 1. Dezember 1977, informiert. Die Referate sollten mit doppeltem Zeilenabstand und einseitig (21 x 28 cm) maschinengeschrieben sein, in einer der offiziellen Sprachen - Englisch, Französisch oder Deutsch. Es wäre von Vorteil wenn eine englische Übersetzung für Beiträge in Französisch oder Deutsch mitgesandt werden könnte. Nichtangenommene Referate werden den Autoren zurückgesandt. Während des Kongresses können die Referate entweder in der üblichen Form oder als Poster-Vortrag präsentiert werden (siehe Abschnitt über Poster-Vorträge).

Kurzfassungen

Eine Kurzfassung von 100-150 Wörtern soll dem Referat beigefügt sein. Eine Übersendung der Kurzfassungen in allen drei offiziellen Sprachen würde zusätzliche Übersetzungen ersparen. Wenn unbedingt notwendig, können jedoch Übersetzungen angefertigt werden.

Kopien der eingereichten Referate

Autoren, die beabsichtigen ihre Referate während der Sitzungen vorzutragen, können Kopien ihres kompletten Beitrages verteilen. Listen dieser Beiträge werden während des Kongresses den Teilnehmern zur Verfügung stehen und nach Bedarf während des Kongresses gegen Bezahlung nachgedruckt werden.

Allgemeine Richtlinien und Bedingungen:

1. Wissenschaftler können nur ein Referat als Erstautor vorlegen und/oder nicht mehr als einen Beitrag als Zweitautor;
2. Einer der Autoren muss das Referat vortragen;
3. Das Original und zwei Kopien des Referat und die dazugehörige Kurzfassung sollen an die folgende Adresse gesandt werden: Congress Manager, 11th ISSS Congress, Box 78, Sub. 11, University of Alberta, Edmonton, Canada T6G 2E0;
4. Vortrag von Referat zu den Kommissionen:
 - a. maximal 25 Minuten werden jedem Referat zugeteilt, ungefähr 15 Minuten für den Vortrag und weitere 10 Minuten für die Diskussion.
 - b. Den Autoren werden genaue Anleitungen für die Vorbereitung von Lichtbildern einschliesslich Tabellen und graphische Darstellungen zur Verfügung gestellt;
 - c. Das Organisationskomitee behält sich das Recht vor alle Vorlagen und Kurzfassungen auszuwählen und sie zu redigieren.

Wichtige Termine:

Erhalt der Referat und Kurzfassungen: nicht später als 1. Oktober 1977;
Benachrichtigung der Autoren über Abnahme der Vorlage; 1. Dezember 1977.

POSTER-SITZUNGEN

Poster-Vorträge sind eine Neueinführung im Vortrag von wissenschaftlichen Abhandlungen bei grossen wissenschaftlichen Zusammenkünften. Nur eine begrenzte Anzahl von Teilnehmern des 11. IBG Kongresses werden von dieser Möglichkeit Gebrauch machen können. Bei diesen Poster-Vorträgen wird verschiedenen Autoren nebeneinander Raum zur Verfügung gestellt. Jeder Autor bedient sich einer Vorfürtafel im Ausmass von 3 Quadratmetern an der er oder sie die Poster zur Schau stellt. Die Poster können sich aus Tabellen, graphischen Darstellungen, Photos, etc. zusammensetzen, ausserdem können sie Stichworte enthalten. Das ausgestellte Material soll aus einer Distanz von ca. 2 Metern gut lesbar sein.

ANMELDUNGSGEBÜHREN

Auf Grund von Preisschwankungen und wegen noch mangelnder Information über die Zahl der Anmeldungen zum 11. IBG Kongress ist es nicht möglich zu diesem Zeitpunkt genaue Zahlen zu geben. Um jedoch Personen die an der Teilnahme an dem Kongress interessiert sind, in ihrer Planung zu helfen, mögen folgende Zahlen nützlich sein:

Anmeldung für Teilnehmer nicht über Kan. \$ 100-
(Die Anmeldung beinhaltet die Kongressdokumentation, ein Bankett, und anderes)
Einschreibung für begleitende Gattin nicht über Kan. \$ 60-
Universitätsresidenz, Doppelzimmer (einschliesslich Frühstück) pro Person und
Tag nicht über Kan. \$ 17-
Lokale Tagestouren (drei zur Auswahl), pro Tour nicht über Kan. & 20-
Exkursionen vor und nach dem Kongress: siehe Beschreibung der einzelnen
Exkursionen.

Bitte beachten Sie:

1. Das Organisationskomitee erwartet, dass die endgültigen Kosten unter den oben erwähnten Zahlen liegen werden.

Die endgültigen Ziffern werden mit dem Anmeldeformular im 1977 und 1978 ausgesandt.

2. Die Unterbringung in der Universität und Teilnahme an den verschiedenen Touren ist beschränkt. Personen, die die beigefügte vorläufige Anmeldung an das Organisationskomitee senden, werden bei der Zuteilung von Zimmern in der Universität und bei der Anmeldung zu den Exkursionen bei Austeilung der formellen Anmeldeformulare bevorzugt behandelt.

Anschrift für alle Korrespondenz:

11th ISSS Congress
Box 78, Sub. 11
University of Alberta
Edmonton, Canada T6G 2E0

TOURS IN THE USA EXCURSIONS AUX EUA EXKURSIONEN IN DEN USA

In connection with the 11th ISSS Congress there will be an opportunity to take a tour in the USA, organized by the Soil Science Society of America. These activities will not interfere with those scheduled in Canada since the USA tours will be held either *before the pre-congress tours in Canada or after the post-congress tours*. Tours before the Congress will be restricted to the southern United States while those following the Congress will take place in the northern part of the country. Rather than developing tours where the group motors across the countryside, stopping at a different place every night, preference has been given to center activities around one place and combine field trips of one day duration with "in-house" discussions, hence the name of "mobile workshop". The suggestions listed below are tentative. Those interested in these tours should return the notice of intent included in this Bulletin (see yellow pages) so that the organizers could prepare more concrete plans.

Les participants au 11ème Congrès AISS auront l'occasion, s'ils le désirent, de prendre part à une excursion aux EUA organisée par la Soil Science Society of America. Ces activités n'interféreront pas avec celles projetées par le Comité Canadien vu que les tournées aux EUA auront lieu soit *avant les excursions pré-congrès* au Canada, soit *après les excursions post-congrès*. Les excursions qui précéderont le congrès seront limitées à la partie méridionale des EUA alors que celles qui suivront le congrès auront lieu dans la partie septentrionale du pays. Plutôt que d'organiser des tournées qui nécessitent un déplacement continu et un longement en différents endroits, les organisateurs américains ont opté pour la formule "mobile workshop" qui rayonne à partir d'un endroit fixe et permet des échanges de vues lors du retour au "campement". Les itinéraires décrits ci-dessous sont provisoires. Les intéressés sont priés de bien vouloir renvoyer le Bulletin d'intention inclus dans ce Bulletin (voir pages jaunes) afin que le Comité organisateur puisse établir des projets concrets.

Anlässlich des 11. IBG-Kongresses wird die Gelegenheit zu Exkursionen in den USA gegeben, die von der Amerikanischen Bodenkundlichen Gesellschaft organisiert werden. Diese Touren werden nicht mit den in Kanada vorgesehenen überschneiden, da die USA-Touren entweder *vor den Vor-Kongress-Touren* in Kanada oder *nach den Nach-Kongress-Touren* liegen.

Die Exkursionen, die vor dem Kongress liegen, werden sich auf den Süden der Vereinigten Staaten beschränken, während diejenigen nach dem Kongress in dem nördlichen Teil des Landes führen. Anstelle von Touren, bei denen die Reisegruppe über Land fährt und jeden Tag an einem anderen Ort übernachtet, hat man es vorgezogen, die Aktivitäten um einen bestimmten Ort zu konzentrieren und Felddagesexkursionen mit Diskussionen "im Haus" zu kombinieren; daher der Name vom "beweglichen Workshop". Die unten angeführten Vorschläge sind vorläufig. Interessenten werden gebeten, die Anmeldung (s. gelbe Seiten dieser Mitteilungen) einzureichen, damit die Organisatoren genauere Pläne ausarbeiten können.

Tours in the Southern USA (before the Congress) Excursions dans la partie méridionale des EUA (avant le Congrès) Exkursionen im südlichen Teil der USA (bevor dem Kongress)

Ia. Four to five-day (May 29-June 5) mobile workshop centered in and around Atlanta, Georgia. This group will study the soils, land use and agriculture of the Coastal Plain, Piedmont and Appalachian Mountain regions. This is one of the areas

with a rapid expanding urban center, an influx of summer homes and man-made lakes competing with a changing agriculture, complexed by a rapid expansion of the forestry industries.

Ib. Four to five-day (May 29-June 5) mobile workshop dealing with the soils of the southeastern arid region centered around **Tucson**, Arizona. Soil genesis, soil classification and land use will provide the main theme. Research gained from the SCS Desert Project plans, research on water management, etc., from other federal and state agencies will provide the basis for discussions.

Ic. Two-day open-house type of activity (June 6-7), exhibiting the new facilities and some of the activities of the SCS National Soil Laboratory located in **Lincoln**, Nebraska.

Tours in the Northern USA (after the Congress)

Excursions dans la partie septentrionale des EUA (après le Congrès)

Exkursionen im nördlichen Teil der USA (nach dem Kongress)

Ila. Four to five-day (July 9-14) mobile workshop studying the soils, agriculture and land use problems of the northcentral cornbelt area centered around **Chicago**, Illinois. Land use adjustments arising from an expanding metropolitan area that involves four states plus the unique soils and farm productivity of the cornbelt are the highlights of this workshop.

Ilb. Four-day (July 9-13): The northwestern wheat and range region and the northwestern forest region offer good themes for a mobile workshop out of **Spokane**, Washington. The group can study the unique soils and agriculture of the Palouse region, in addition to the farming, forestry and urban growth peculiarities of the northwest.

Ilc. Two-day open-house type of activity (July 7-8) exhibiting the new facilities and some of the activities of the SCS National Soil Laboratory located in **Lincoln**, Nebraska.

Ild. Four-day (July 9-13) mobile workshop of the intricate soils, geography and land use systems of northeastern United States. This study can be centered around **Boston**, Massachusetts and deal with the kinds of resource inventories and evaluations being used by local communities in solving land use patterns that satisfy the economic, environmental, and social demands of the people in Massachusetts.

Information:

Dr. L. J. Bartelli

Director, Soil Survey Interpretations Division

SCS - USDA

Washington, D.C. 20250, U.S.A.

ACTIVITIES OF THE COMMISSIONS

ACTIVITÉS DES COMMISSIONS

TÄTIGKEIT DER KOMMISSIONEN

The following pages contain the final report of the Terminology Committee of Commission I of the ISSS. The report published in Bulletin No. 48, in December 1975, was a first draft circulated for further comments.

COMMISSION I (SOIL PHYSICS)
SOIL PHYSICS TERMINOLOGY

The second Terminology Committee of Commission I of the International Society of Soil Science was appointed in January of 1973 by W.R. Gardner, the President of the Commission. The Committee was asked to update the terminology report published in 1963 in Volume 22 of the Bulletin of the International Society of Soil Science. A preliminary report was discussed at the 1974 ISSS Meeting at Moscow, where the Chairman of the Committee was commissioned to complete the report taking into account oral comments and written comments received by him before the end of 1974.

Preamble

The following set of definitions and terms in soil physics is far from complete. It appears almost certain that complete satisfaction for all conditions and all users cannot be reached. The potential use of the present definitions could range from applied soil physics to advanced theoretical considerations, while the backgrounds of the potential users might include biology, chemistry, physics, hydrology, and perhaps geology. In view of the above, only a limited selection has been made, concentrating on terms with supposedly wide usage. Moreover, an accent has been placed on a wording that would appear to be comprehensible also to the non-specialist. If this would result in some dissatisfaction of the specialist, this was preferred above the situation where the non-specialist would be left in uncertainty. After all, the specialist should be able to take care of himself regardless of the particular wording chosen, while the applied scientist would hardly be served by a wording that goes beyond his background knowledge.

With due reference to the global acceptance of SI units, these have been, or are assumed to be, used throughout, with the single exception of the unit of pressure, which plays a key role in many of the definitions. Admitting that the soil physics world is still very much geared toward the use of the mbar, while on the other side the Pascal is often hardly known, the mbar has still been accepted as a unit in addition to the Pascal, leaving it to the user to avoid errors due to mixing of units. As a reminder, it is pointed out that $1 \text{ Pa} (= 1 \text{ N/m}^2) = 0.01 \text{ mbar}$.

As regards symbols representing the terms defined, the Committee views it as a sheer impossible task to suggest a set of symbols which on the one hand corresponds with common usage and, on the other hand, is completely

consistent. The symbols used in the present text are thus meant to be exemplary at best.

As to terminology, in contrast to the position taken in the 1963 report, the name "water" is here limited to the chemical constituent H_2O , whereas "liquid phase" is used to indicate the aqueous solution residing in soil in situ. In the particular situation where this solution is considered separate from the soil it is termed "soil solution".

1. Terms relating to the composition of the soil

Recognizing the presence of three phases in soil, viz. the solid phase (index s), the liquid phase (index l) and the gas phase (index a), the composition of a soil can be fully described in terms of appropriate densities of all chemical constituents in all phases.

These densities, ρ , specify the mass of a component present in a unit volume of either the appropriate phase or of the bulk soil, or in certain cases in a unit volume of the component itself.

Unambiguous labeling of the density would thus require triple indexing, e.g. a superscript indicating the unit volume considered and two subscripts indicating the component and the phase in which it resides. To simplify the notation for the present purpose the following rule has been adopted. If the density of a constituent present in a phase is given with respect to a unit volume of its own phase, the superscript is omitted, while its density in the bulk soil is labeled with a superscript b ; densities of pure components in pure phases will be labeled with a superscript 0 . Furthermore the double subscript will be used only if the presence of the constituent in more than one phase is to be considered explicitly.

DEF. 1: The phase density of a chemical constituent i (present in a phase α), ρ_i or $\rho_{i(\alpha)}$, is the mass of constituent i in a unit volume of phase α expressed in kg per m^3 of phase α .

Summing up the phase densities of all constituents of a phase gives the phase density, $\rho_\alpha = \sum_i \rho_{i(\alpha)}$.

DEF. 2: The bulk density of a constituent i (present in a phase α) $\rho_{i(\alpha)}^b$, is the mass of constituent i (present in phase α) per unit bulk volume of soil, expressed in kg per m^3 of bulk volume.

The phase density and bulk density of a constituent i present in phase α are related via the volume fraction of the phase,

$$\phi_{\alpha} = \sum_i^b \rho_{i(\alpha)} / \rho_{i(\alpha)}$$

Summing up the bulk densities of all constituents in all phases gives the bulk density of the soil,

$$\rho^b = \sum_{\alpha} \sum_i^b \rho_{i(\alpha)} = \sum_{\alpha} \phi_{\alpha} \rho_{\alpha}$$

As generally the density of the gas phase is negligible, one finds that for dry soils the bulk density equals the bulk density of the solid phase, $\rho^b = \rho_s^b$.

In soils the liquid phase (or soil solution) and its major constituent water are often of particular interest. There are several ways to express the water or liquid content of the soil, each having advantage under certain conditions. The basis of most experimental data is the water content on mass basis relative to the total solid content on mass basis.

DEF. 3: The water content or wetness, w , is the amount of water lost from the soil upon drying at 105°C , expressed in kg water per kg of solid phase after drying.

$$\text{Disregarding the water present in the vapor phase } w = \rho_w^b / \rho_s^b$$

In flow problems one is primarily interested in the liquid content of the soil on a volume basis. The liquid volume associated with one kg of solid phase is then found as w/ρ_w ; for lack of information as to the density of water in the liquid phase of the soil one is often satisfied to use the density of pure water, ρ_w^0 , for this purpose. The above liquid volume is usually expressed per unit bulk volume of the soil (in case of a rigid matrix) or per unit volume of the solid phase (in case of a non-rigid matrix).

DEF. 4: The volume fraction of liquid, θ , is the volume of the liquid phase per unit bulk volume of soil, expressed in m^3 liquid per m^3 bulk volume.

$$\text{Accordingly } \theta = w (\rho_s^b / \rho_w)$$

DEF. 5: The liquid ratio, \mathfrak{V} , is the volume of the liquid phase per unit volume of the solid phase, expressed in m^3 liquid phase per m^3 of solid phase.

$$\text{Accordingly } \mathfrak{V} = w (\rho_s / \rho_w) = \theta / \phi_s$$

In conjunction with the liquid ratio one often employs the void ratio in soils with non-rigid matrix.

DEF. 6: The void ratio, e , is the volume of the pores per unit volume of the solid phase, expressed in m^3 of pore space per m^3 of solid phase.

$$\text{Accordingly } e = (\phi_a + \phi_l) / \phi_s = (1 - \phi_s) / \phi_s$$

II. Terms relating to the state of water in soils

A. The total potential and its components

At equilibrium, the constituent water of the liquid phase is subject to the action of the gravitational field, the influence of dissolved salts and of the solid phase (including adsorbed ions) in its given geometry of packing, and to the action of the local pressure in the soil gas phase. Together these factors determine the value of the total potential, ψ_t , of the constituent water in soil relative to a chosen standard state. Selecting as standard a system, S_0 , comprising a pool of pure (i.e., water not influenced by dissolved salts, or, in other words, water whose osmotic pressure, π , is zero), free (i.e., water not influenced by the solid phase) water at temperature T_0 , height h_0 and atmospheric pressure P_0 , one defines:

DEF. 7: The total potential, ψ_t , of the constituent water in soil at temperature T_0 , is the amount of useful work per unit mass of pure water, in J/kg, that must be done by means of externally applied forces to transfer reversibly and isothermally an infinitesimal amount of water from the standard state S_0 to the soil liquid phase at the point under consideration.

It is convenient to divide the transfer process referred to above into several steps, by introducing substandards according to:

- S_1 : a pool of pure, free water as in S_0 , but situated at the same height as the soil liquid phase under consideration, h_x , i.e., S_1 is at T_0, h_x, P_0 .
- S_2 : a pool of free soil solution (identical in composition with the soil liquid phase at the point under consideration), thus having an osmotic pressure, π , but otherwise identical with S_1 , i.e., S_2 is at T_0, h_x, P_0 .

Considering the transfer of water from the standard state S_0 , via the substandards S_1 and S_2 , to the soil liquid phase leads to the definitions of the component potentials of the constituent water, according to:

DEF. 8: The gravitational potential, ψ_g , of the constituent water in soil at temperature T_0 , is the amount of useful work per unit mass of pure water, in J/kg, that must be done to transfer reversibly and isothermally an infinitesimal quantity of water from the standard S_0 to the substandard S_1 , as defined above. This potential may be expressed in terms of the difference in height between S_0 and S_1 , $\Delta h = h_x - h_0$, according to $\psi_g = g\Delta h$, in which g is the magnitude of the gravitational force per unit mass.

DEF. 9: The osmotic potential, ψ_o , of the constituent water in soil at temperature T_o , is the amount of useful work per unit mass of pure water, in J/kg, that must be done to transfer reversibly and isothermally an infinitesimal quantity of water from the substandard S_1 to the substandard S_2 , as defined above. This potential may be expressed in terms of the experimentally accessible osmotic pressure of the solution, π , according to

$$\psi_o = -\int_0^\pi \bar{V}_w dP,$$

in which \bar{V}_w is the partial specific volume of the constituent water in the soil solution.

DEF. 10: The tensiometer-pressure potential, ψ_p , briefly referred to as pressure potential of the constituent water (in situ), is the amount of useful work per unit mass of pure water, in J/kg, that must be done to transfer reversibly and isothermally an infinitesimal quantity of water from the substandard S_2 to the soil liquid phase at the point under consideration. This potential may be expressed in terms of the experimentally accessible tensiometer pressure of the soil liquid phase in situ, p , according to:

$$\psi_p = \int_0^p \bar{V}_w dP.$$

Accordingly, the total potential may be found from the relation

$$\psi_t \equiv \psi_g + \psi_o + \psi_p = g\Delta h - \int_0^\pi \bar{V}_w dP + \int_0^p \bar{V}_w dP$$

Referring to the set of definitions in the 1963 ISSS Report, the following differences are noted:

1. Aside from a "theoretical" definition in terms of the expenditure of useful work during reversible transport, a definition in terms of three experimentally accessible parameters, namely, Δh , π , and p , has been added.
2. As will be elaborated upon below, the viewpoint is taken that the pressure reading of a tensiometer installed in situ should be seen as one of the three parameters characterizing fully the state of water in soil under the conditions prevailing, including the effect of the presence of an external gas pressure different from atmospheric and/or the presence of a mechanical envelope pressure (e.g. overburden pressure). While admitting that in the specific case of a soil sample in a pressure membrane apparatus the external gas pressure is known, in the field this is often not the case. Nevertheless the determination

of the three parameters Δh , π , and p (π in practice being calculated from the measured electrical conductivity of the soil solution) suffices for characterizing the state of water in soil; their gradients are the basis for transport theory.

3. The name associated with the potential derived from a tensiometer-pressure reading could be the pressure potential, as indeed it represents the equivalent pressure in the soil liquid phase in situ. It ranges from negative to positive values and in the latter case is often based on the pressure as calculated from piezometer readings. Obviously it foregoes a reference to its cause, but as this is the combined influence of gas pressure, matrix configuration, and water content and configuration, this seems unavoidable.

B. The subcomponents of the pressure potential

Any complete analysis of equilibrium or flow problems requires relating the water potential to the water (or liquid) content of the soil. The components ψ_g and ψ_o being determined by height and osmotic pressure in the soil solution, the water content will influence only ψ_p . It must be realized that it is particularly the geometry of the liquid phase that determines the pressure increment from the gas phase to the liquid phase. The geometry of the liquid phase depends on the water content (for a given solute concentration in the liquid phase) and on the matrix geometry, the latter in turn being influenced by the mechanical envelope pressure. Thus in addition to the water content, at least two other independent variables, viz. the pressure in the gas phase, P_a , and the envelope pressure, P_e , will together determine ψ_p . Using again the tensiometer reading as the experimentally accessible parameter, one may introduce at least two subcomponents of the pressure potential, according to $\psi_p = \psi_p^m + \psi_p^a$. One may then define:

DEF. 11: The pneumatic potential, ψ_p^a , is the increment of ψ_p upon the introduction of an excess gas pressure $\Delta P_a \equiv P_a - P_0$ on a soil sample with given wetness and subject to a given envelope pressure. In so far as the application of ΔP_a does not influence the geometry of the liquid phase, this potential may be calculated according to:

$$\psi_p^a = \int_0^{\Delta P_a} \bar{v}_w' \cdot dP$$

in which \bar{v}_w' is the partial specific volume of water in the soil liquid phase in situ. In practice it is assumed to be equal to \bar{v}_w .

DEF. 12: The matric potential, ψ_p^m , is the value of ψ_p of a soil sample at given wetness and subject to a given envelope pressure but with $\Delta P_a = 0$.

Referring to the comments above it must be noted that only in soils with a rigid matrix ψ_p^m has a definite, though not necessarily unique, relationship with the wetness w . As in swelling soils ψ_p^m depends on both w and P_e one may define for these soils:

DEF. 13a: The "envelope-pressure" potential (overburden potential), ψ_p^e , is the increment of ψ_p following the application of an envelope pressure P_e to a soil sample with wetness w and $\Delta P_a = 0$, and originally under zero envelope pressure, according to:

$$\psi_p^e = \int_0^{P_e} \left[\frac{\partial \psi_p}{\partial P_e} \right]_w dP$$

DEF. 13b: The wetness-potential, ψ_p^w , is the value of ψ_p in a soil sample at wetness w , with $P_e = \Delta P_a = 0$.

The above definitions, though involving a somewhat circular reasoning, were preferred above further extensions of the set under A, stressing the fact that ψ_t is fully determined by ψ_g , ψ_o , and ψ_p under all circumstances.

The choice of the name "wetness potential" for ψ_p at zero P_e and ΔP_a may seem a questionable introduction of a new name, but it is at least indicating directly its relation with the water content. It may be noted that if the matrix is rigid, ψ_p^e vanishes, and that then ψ_p^m equals the matric or capillary potential as defined in the report of 1963 (in which the effect of the envelope pressure was not taken into account). In swelling soils, however, the names matric and capillary potential should refer to the sum of ψ_p^w and ψ_p^e , as the "matric effect" on the soil water in situ, as also the "capillary retention" due to curved interfaces, depend on the matrix geometry as it results from the packing of the grains under the local envelope pressure.

C. The pressure equivalents of soil water potentials

As all components and subcomponents of the total potential (except for the gravity potential) were expressed in terms of measurable pressures of the tensiometer (piezometer) and the osmometer, pressure equivalents of the

components and subcomponents have, in effect, already been introduced. For completeness, we give the following explicit definitions.

DEF. 14: The negative osmotic pressure, $-\pi$, is the negative of the gauge pressure, in Pascal or mbar, relative to atmospheric pressure, to which a sample of the soil solution at P_0 and T_0 must be subjected in order to be in equilibrium via a membrane impermeable to the solutes with pure water at P_0 and T_0 .

DEF. 15: The tensiometer pressure, p , is the gauge pressure, in Pascal or mbar, relative to atmospheric pressure, to which a sample of the soil solution at P_0 and T_0 must be subjected in order to be in equilibrium via a membrane impermeable to the soil matrix with the soil water at the point under consideration.

Following DEF. 11 and 12, p may be subdivided according to $p = p^m + p^a$. Following DEF. 11 and 13 one finds $p = p^w + p^e + p^a$. It is noted that for all practical purposes $p^a = \Delta P_a$, the external gas pressure relative to atmospheric pressure. On the other hand, generally $p^e \neq P_e$.

D. The head equivalents of soil water potentials

As the soil water potentials defined above refer to the state of the constituent water in the liquid phase, while in practice head readings are obtained from the (hydraulic) equilibrium position of the soil solution in a piezometer pipe (if necessary in the open leg of a tensiometer equipped with a "solution manometer"), it should be stressed that in general the head refers to a potential of the liquid phase and has no unique relation with the water potentials above.

It is noted that in principle hydraulic equilibrium between two identical solutions positioned at different height precludes the existence of *equilibrium of the component water*. At least if the *specific volume of water and solute are unequal*, full equilibrium implies that concentration gradients arise in the *gravitational field*. Because of its usefulness in describing the flow of the liquid phase through soil, the head is defined here directly as:

DEF. 16: The hydraulic head, H , of the liquid phase is the height, relative to the standard height, at which the level of the soil solution stands in a piezometer tube (or "open" tensiometer), connected to the point under consideration in the soil, to be specified in meter.

If the liquid phase density, ρ_1 , is constant and known, the

hydraulic head may be related to the height and the pressure equivalent of ψ_p , according to:

$$H = \Delta h + p/\rho_1 g,$$

in which case $p/\rho_1 g$ is sometimes referred to as "pressure head". Conversely, a pressure equivalent of H may (under the stipulated condition of constant ρ_1) be defined as:

$$p^* = p + \rho_1 g \Delta h.$$

As will be elaborated on in part III, in the above case $-\nabla p^*$ constitutes the driving force on the soil solution, in N/m^3 , while $-\nabla H$ is the same in dimensionless units of N per kg of the liquid phase relative to the gravitational force on a kg liquid.

E. The water (or liquid) retentivity curve and the differential water (or liquid) capacity

In dealing with flow problems there is often a need for introducing a relationship between the water (or liquid) content of a soil and the appropriate component potential. For soils with a rigid matrix this potential is the matric potential defined above. Admitting that, due to hysteresis in the filling and emptying of the pores, such relationships are not unique, in practice one is generally satisfied to use such relationships as they are obtained experimentally by measuring water (or liquid) contents in a representative sample of the soil studied, at $\Delta P_a = 0$, as a function of the tensiometer pressure. Because of the application of the obtained relationship to flow problems it appears preferable to define it in terms of p^m and w (or θ). In swelling soils, however, p^m is a function of both w and P_e . In case the relationship between p^e and P_e is available one might relate p^w to w (or θ). If not, one must take into account that in general the relation between p^m and w (or θ) comprises a family of curves corresponding to different values of P_e .

DEF. 17: The water (or liquid) retentivity curve of a soil is the curve relating p^m (for a specified envelope pressure in case of swelling soils) or p^w to w or the volume fraction θ of the soil liquid phase. Because of hysteresis phenomena one may distinguish between wetting and drying (boundary) curves, if necessary supplemented by wetting and drying scanning curves corresponding to partial wetting and drying cycles.

For rigid soils, the habitual choice is to plot p^m against θ . As, however, such a liquid retentivity curve of a local soil may differ from that of the sample used for its determination, its critical dependence upon the packing of the sample must be fully realized.

As furthermore the value of θ used in plotting the curve is in practice often obtained from the measurement of changes in w/ρ_w , it would merit attention to label the liquid content axis as $w^b \rho_s(i)/\rho_w$, indicating that the curve refers to a sample of the particular soil type with an initial solid phase bulk density $\rho_s(i)$. This would also cover any error due to a slight change of ρ_s upon absorption of the water in not quite rigid soils.

Again in flow theory not only the liquid retentivity curve, but specifically its slope as a function of p^m and θ is of importance. This leads to the definition of a capacity according to:

DEF. 18: The differential water (or liquid) capacity of a soil, C_w or C_θ , is the rate of change of w (or θ) with p^m , to be specified in Pa^{-1} or mbar^{-1} .

Obviously, in swelling soils this capacity depends on the value of P_e which thus should be specified. If such a specification is omitted this will imply that the capacity refers to either a non-swelling soil or to the retentivity curve at zero envelope pressure, thus constituting dw/dp^w or $d\theta/dp^w$.

III. *Terms relating to the movement of the liquid phase*

A complete treatment of the movement of water in a soil would require an analysis of the forces acting upon the constituent water in each phase. However, for the purpose of this report only the movement of the liquid phase will be considered and the presence of dissolved substances will, in effect, be ignored. In other words, the definitions of various quantities will be based upon the forces acting on the liquid phase as a whole. The primary forces are the gravitational force, the force associated with gradients of the tensiometer pressure, p , and the drag forces exerted upon the liquid phase by the solid and gas phases. The gradient of p can, in general, be decomposed into gradients of p^m (or p^w and p^e), and p^a . The drags exerted by the solid and gas phases, are, for simplicity, lumped into one force.

DEF. 19: The velocity of the liquid phase relative to the solid phase, v , is the time rate of change of position of an element of the liquid phase relative to an element of the solid phase in m/s.

DEF. 20: The flux of the liquid phase relative to the solid phase, q , is the product of the volume fraction θ and the velocity v in m/s.

DEF. 21: The hydraulic conductivity, K , in m^2 per Pa, per s or m^2 per mbar, per s is the constant of proportionality between the flux q and the total driving force $(-\nabla p - \rho_1 g \nabla h)$ in Darcy's law:

$$q = -K(\nabla p + \rho_1 g \nabla h).$$

The flux q divided by the hydraulic conductivity K represents the drag force. The hydraulic conductivity K may also be defined as the flux caused by a unit driving force. If the soil is rigid and the presence P_a of the gas phase is uniform, then the pressure p in Darcy's law can be replaced by the pressure p^m . If, moreover, the pressure p^m is a unique function of the volume fraction θ (no hysteresis!), then Darcy's law can be written as:

$$q = -K \left(\frac{dp^m}{d\theta} \nabla \theta + \rho_1 g \nabla h \right).$$

In that case one may use:

DEF. 22: The liquid diffusivity, D , in m^2/s is the quotient of the hydraulic conductivity K and the differential liquid capacity, C_θ .

Introducing D in Darcy's law gives:

$$q = -D \nabla \theta - K \rho_1 g \nabla h.$$

The diffusivity D may also be defined as the flux caused by a unit gradient of the volume fraction θ .

Slightly different definitions of water capacity and hydraulic conductivity result if the pressure p^m is replaced by a pressure head $p^m/\rho_1 g$.

TERMINOLOGY COMMITTEE, Commission I, ISSS

Dr. G.H. Bolt (Chairman)	Dr.S. Iwata *	Dr. A.J. Peck
Lab. Soils and Fert.	Nat. Inst. Agr. Sci.	W. Austr. Lab., CSIRO
Wageningen, THE NETHERLANDS	Tokyo, JAPAN	W.A.6014, AUSTRALIA
Dr. P.A.C. Raats	Dr. A.A. Rode	Dr. G. Vachaud
U.S. Salinity Lab, Riverside	Lab. Soil Hydrology	Inst. de Mécanique
California 92502, U.S.A.	Dokuchaev Inst.	B.P. 53
Dr. A.D. Voronin	Moscow 17, U.S.S.R.	Grenoble, FRANCE
Dept. Soil Phys. and Melioration		
Moscow State University, Moscow 117234, U.S.S.R.		

* Dr. Iwata wants to point out his opinion that the state of the component water in the soil system may be satisfactorily expressed in terms of its thermodynamic potential.

**NEWS FROM THE NATIONAL SOCIETIES
NOUVELLES DES ASSOCIATIONS NATIONALES
BERICHTE DER NAZIONALEN GESELLSCHAFTEN**

Argentina

The Asociación Argentina de la Ciencia del Suelo (AACS) held its 7th General Meeting from 1-6 December 1975 at Bahía Blanca. At this session it elected the following board:

President: Ing. Agr. Oscar J. Guedes
Vice-President: Ing. Agr. Eduardo A. Barreira
Secretary: Dr. Dino A. Cappannini

The AACS will be organizing "Jornades de avances en conservación y manejo de suelos en ambientes semiáridos" on 7 and 8 October 1976 at Santa Rosa. The office of the AACS is located at Cerviño, 3101, Buenos Aires.

Belgique

Lors de son Assemblée Générale le 28 janvier 1976, la Société Belge de Pédologie – Belgische Bodemkundige Vereniging – a élu son nouveau bureau composé de:

Président: J. D'Hoore
Vice-Présidents: M. Van Ruymbeke et R. Frankart
Secrétaire Général a.i.: C. Sys
Secrétaire Trésorier a.i.: A. Louis

En octobre 1976, la Société célébrera le 25^{ème} Anniversaire de sa fondation lors d'une séance académique qui sera consacrée au thème: "Pédologie et Protection de l'Environnement".

Toute correspondance peut être adressée à la Société Belge de Pédologie, Rozier 44, B-9000 Gent, Belgique.

Bundesrepublik Deutschland

Das hervorragende Ereignis des Jahres 1975 war die Jahrestagung der Deutschen Bodenkundlichen Gesellschaft in Regensburg die zum dritten Male in Bayern stattfand und mit der 25-jährigen Wiederkehr der ersten DBG-Jahrestagung 1950 in München zusammen fiel, nachdem die Deutsche Bodenkundliche Gesellschaft im Vorjahr (am 7. Dezember 1949) in Wiesbaden neu begründet worden war. Zugleich wurde des 125-jährigen Jubiläums des Bayrischen Geologischen Landesamtes und des 100-jährigen Bestehens der Bavrischen Bodenkundlichen Landesaufnahme gedacht. Die Vortragstagung stand unter den Generalthema "Aufgaben der Bodenkunde in Umweltforschung und Landschaftsplanung".

Am 4. und 5. Oktober 1976 ist eine gemeinsame Tagung der Kommissionen I und II zum Thema "Transport von Wasser sowie gelösten und suspendierten Stoffen" in Göttingen geplant. Vom 27. Sept. bis 2. Okt. 1976 wird in Wiederholung und Fortsetzung eines früheren Kurses ein zweiter Kurs mit dem Thema "Lösung bodenhydrologischer Fragen mit der Simulationssprache CSMP" durchgeführt.

Die Kommission IV plant in Verbindung mit der Kommission III und der Fachgruppe I des VDLUFA am 22. und 23. Sept. 1976 in Oldenburg eine Vortragstagung zum Thema "Stickstoffversorgung von Böden und Pflanzen".

Für September 1976 ist in Giessen eine Tagung der Kommission VII zum Thema "Veränderungen von Mineralbestand und Bodeneigenschaften durch Umwelteinflüsse" geplant.

Brazil

The Sociedade Brasileira de Ciência do Solo (SBCS) announced the composition of its Executive Board for the period 1975-77:

President:	Luiz Bezerra de Oliveira
Vice-Presidents:	Sebastiao Francisco Guimaraes Corrêa and Francisco da Costa Verdade
Secretary:	Antonio Carlos Moniz
Treasurer:	Antonio Roberto Giardini

The office of the SBCS is located c/o Instituto Agronômico, Caixa Postal 28, 13100 Campinas, SP., Brazil. The SBCS has initiated the publication of a "Boletim Informativo" of which the first number was issued in January 1976. It contains the rules of the SBCS and announces the activities which will be taking place in the coming year.

In January 1976 the SBCS organized the 4th Symposium on the Cerrado, dealing with its general characteristics, its natural and socio-economic resources, specific problems of the Cerrado and alternatives to its solution, and studies of agricultural production systems.

The 16th Congress of the Brazilian Society of Soil Science is planned to be held in Sao Luis from 11-16 July 1977.

Denmark

The Danish Society of Soil Science (DSSS) held its general annual meeting on 11 February 1976. The new members of the board are:

President:	Kjeld Rasmussen
Secretary and Treasurer:	Age Henriksen and H. Srensen.

The address of the DSSS is c/o Royal Veterinary and Agricultural University, Chemistry Department, 40, Thorvaldsensvej, DK-1871 Copenhagen V. Denmark.

Deutsche Demokratische Republik

Die Bodenkundliche Gesellschaft der DDR führte vom 4. bis 6. Februar in Magdeburg ihre 8. Wissenschaftliche Tagung und Mitgliederversammlung durch. Die Tagung stand unter der Thematik "Aufgaben und Probleme der Ausarbeitung komplexer Lösungen für die Reproduktion der Bodenfruchtbarkeit in den zukünftigen Bodennutzungstypen der industriemässigen Pflanzenproduktion", zu der der Vorsitzende der Gesellschaft, Prof. Dr. P. Kundler, das Hauptreferat hielt. Folgende Plenarvorträge wurden weiterhin gehalten:

– Bodenbiologische und phytosanitäre Aspekte der Reproduktion der Bodenfruchtbarkeit unter den Bedingungen der industriemässigen Pflanzenproduktion (Prof. Dr. G. Müller, Halle, Prof. Dr. K. Steinbrenner, Müncheberg).

– Funktion des Bodens bei der Sicherung einer optimalen Nährstoffversorgung der Pflanzen unter industriemässigen Produktionsbedingungen (Prof. Dr. G. Markgraf, Berlin, Prof. Dr. W. Borchmann, Rostock).

– Beitrag der Standortkunde zur Reproduktion der Bodenfruchtbarkeit (Prof. Dr. I. Lieberoth, Eberswalde).

– Aufgaben und Probleme bei der Verbesserung der Wasserversorgung und technologischen Bodeneignung in der industriemässigen Pflanzenproduktion (Prof. Dr. K. Schwarz, Dr. H. Lindner, Dr. P. Leue, Dr. H. Igel, Müncheberg).

Nach den Plenarvorträgen wurden in den Kommissionen insgesamt 27 Vorträge diskutiert.

France

L'Assemblée Générale de l'Association Française pour l'Etude du Sol (AFES) a eu lieu le 23 mai 1975. A cette occasion, l'Association a élu son Conseil d'Administration composé comme suit:

Président:	M. Drouineau
Vice-Présidents:	M. Aubert, M. Barbier, M. Duchaufour, M. Hébert, M. Hénin, M. Leneuf
Secrétaire Général:	M. Begon
Secrétaire Général adjoint:	M. Jamagne
Trésorier:	M. Bétrémieux

Les séances plénières de l'Association, en novembre 1975 et février 1976, ont été consacrées respectivement aux "Conceptions actuelles sur le rôle de l'argile dans l'organisation et le comportement des sols" et la "Localisation des engrais et absorption racinaire".

Le bureau de l'AFES est situé au C.N.R.A., Route de St-Cyr, Versailles 78000, France.

Iran

The Iranian Soil Science Society came into being in May 1974 with the holding of its first symposium at the University of Tehran, Karadj. The Members of the first board are:

President:	Dr. Ali Mohammed Massoumi University of Tehran, Department of Soil Science, Karadj
Vice-President:	Dr. Ramez Mahjuri University of Pahlavi, Department of Soil Science, Shiraz
Secretary General:	Dr. Ali Akbar Salardini University of Tehran, Department of Soil Science, Karadj
Treasurer:	Dr. Ali Negarestan University of Tehran, Department of Soil Science, Karadj
Board Member:	Dr. Abbas Pashaii University of Jundi Shapour, Department of Soil Science, Ahwaz

The second symposium on soil science organized by the Society took place at the Faculty of Agriculture, Pahlavi University, Shiraz, from 22 to 26 May 1976.

The papers presented were grouped under the following themes: soil fertility and plant nutrition; land resources and environmental quality; soil genesis, classification and soil mineralogy; soil physics, soil and water management.

The meeting was opened by the Chancellor of the Pahlavi University, Dr. Farhang Mehr and by the Dean of the Faculty of Agriculture Prof. Makarechian. An introductory lecture was given by Dr. Mahdavi, Director General of the Soils Institute while Prof. Massoumi, President of the Iranian Society of Soil Science, reported about the activities of the Society and introduced the Members of its board.

A field tour was organized on 26 May studying soil profiles and visiting the experimental stations at Abou-Char, Marve-Dasht and Kooshkak. A visit was also paid to the Darioush Reservoir Dam in the Marve-Dasht area.

Invited guests from overseas were: Prof. Aubert (France), Prof. Eno (USA), Prof. Marchner (Fed. Rep. of Germany), Prof. Tavernier (Belgium) and Dr. Dudal (ISSS).

The Secretary General conveyed to the Iranian soil scientists greetings and wishes from the International Society of Soil Science. He illustrated the importance of international cooperation in the effective use of land resources.

Japan

The Society of the Science of Soil & Manure in Japan announced the election of the following executive members of the Society:

President:	Dr. Noboru Murayama
Vice-Presidents:	Dr. Kikuo Kumazawa and Mr. Naotaka Saga
Secretary-General:	Mr. Shizuo Satoh

The Society is actively preparing the International Seminar on Soil Environment and Fertility Management in Intensive Agriculture which will take place in Tokyo from 10-17 October 1977 (See also ISSS diary).

Correspondence to the Society of the Science of Soil & Manure in Japan should be sent c/o National Institute of Agricultural Sciences, Nishigahara, Kita-ku, Japan.

Mexico

The Sociedad Mexicana de la Ciencia del Suelo (SMCS) communicated the composition of its board for the period 1976/77:

President: Dr. H.T. Hernández Hernández

Vice-President: Dr. A. Puente Berumen

Secretary/Treasurer: Dr. David Reyes Manzanares

Secretary: Ing. Jorge Tovar Salinas

The 9th Congress of the SMCS will take place at Durango from 24-27 November 1976. The Mexican Society of Soil Science has offered hospitality to the 6th Congress of the Latin American Society of Soil Science which will take place in Mexico City in October 1977.

Correspondence to the SMCS can be sent c/o Apto. Postal 45, Chapingo, Mexico.

New Zealand

The New Zealand Society of Soil Science (NZSSS) presented a special award for outstanding services to Dr. R.B. Miller, who is currently Director of the Soil Bureau. Dr. Miller joined the Bureau in 1944. He obtained a Doctorate in Soil Chemistry from the Royal Agricultural College of Sweden, at Uppsala, in 1952. As a member of the Soil Chemistry Section of the Soil Bureau until 1967, he was particularly concerned with and pioneered the ecosystem approach to soil problems. In 1968 and 1969 he worked at FAO headquarters in Rome on the World Soil Map on an André Meyer Fellowship. On returning to Soil Bureau in 1970, Dr. Miller became head of the Scientific Administration Section. He was appointed Director in 1973 after the untimely death of Dr. Fieldes. Dr. Miller was Secretary-General of the 1962 International Soil Congress held at Palmerston North and is held in very high esteem by soil scientists throughout the world. The NZSSS was formed in August 1952 and Dr. Miller was an officer of the Council from 1953 until 1974. It is this service that the Council particularly wishes to acknowledge. The International Society of Soil Science joins the New Zealand Society of Soil Science in expressing to Dr. Miller its appreciation for his contribution to international soil science.

South Africa

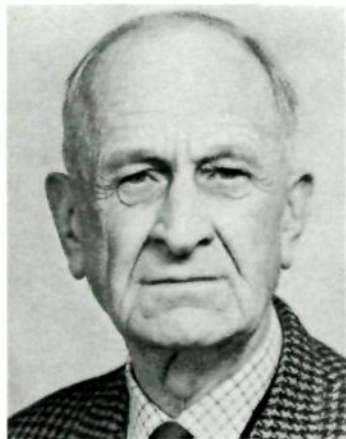
The Soil Science Society of Southern Africa – Grondkundevereniging van Suidelike Afrika – (SSSSA) will be organizing its 7th Conference as part of the overall Agricultural Conference which will be held in Pretoria from 10-14 January 1977. The theme of the Conference will be "Production for an increasing population". A special session of the SSSSA will be devoted to a "Symposium on Land Use" which will deal with urban development, soil classification related to land use and disposal of wastes.

The address of the SSSSA is P.O. Box 1821, Pretoria 0001, Southern Africa.

The Netherlands

On 6 and 7 April 1976, the Netherlands' Society of Soil Science (NBG) held its 78th scientific meeting at Alkmaar. The theme of the session was "Soil Tillage". Topics covered were: the historical development of soil tillage and its present problems, tillage as a growth regulator, workability and trafficability of the soil, rational tillage in relation to soil structure and crop growth, tillage systems in connection with intensification of agriculture. On 7 April a field tour took the participants to the Wieringermeer where soil profiles were studied with special reference to agro-hydrological soil characteristics and to equipment required for early season tillage.

Dr. A.S. de Endredy



Soil science suffered a great loss on 6 February 1976 through the sudden death of Dr. Andrew S. de Endredy, who, since 1965 and between FAO contracts, assisted in the work of the Macaulay Institute for Soil Research, Aberdeen, Scotland.

Endre Zsigmond Endredy, the eldest son of Lieut-Col. Zsigmond J. de Endredy and his wife Erzsébet Mauritz (a sister of Béla Mauritz, Professor of Mineralogy at the University of Budapest) was born at Temesvar, Hungary (now Timisoara, Rumania) on 11 January 1904. After a distinguished school career at Budapest, Veszprém and Kunzsentmiklós he entered, in 1922, the Péter Pázmány University in Budapest and graduated Ph. D. *cum laude* in 1928, his thesis being on polychromates. He then joined the Soil Science Department of the Hungarian Geological Institute, with which he had been

associated as a supplementary assistant since 1926, and remained there until 1945 by which time he was a First Grade Principal Chemist and was also much involved in soil survey. From 1945 to 1950, while domiciled in Austria, he held no scientific post, but in the latter year was appointed Soil Analyst in the then British Colony of the Gold Coast, first at Tafo and later with the Department of Soil and Land Use Survey in Kumasi. He stayed on when Ghana became independent in 1957, but shortly before leaving in 1965 he transferred to FAO for which he later carried out several contracts in Iran, India and Pakistan.

A brilliant chemist with remarkably broad interests, a very retentive memory and a keen sense of observation, Dr. de Endredy's early studies related to silicated and complex compounds of aluminium, iron and chromium as well as to analytical methods. During his period in Hungary he became increasingly interested and involved in soil survey, studied salt-affected soils and travelled throughout Europe. He also attended several International Congresses, thereby meeting all principal soil scientists of his day and actively engaging in interchange of ideas. In Ghana he was largely responsible for organizing and supervising the soil analytical services with which he was associated, but during periods of leave he studied methods and performed research at Rothamsted Experimental Station and the Macaulay Institute. Since 1965 he has examined the mineralogy of samples collected during his FAO contract work, collaborated in investigating diagnostic techniques, and instigated and performed an intensive chemical and crystallographic study of aluminium iodate nitrate compounds he had discovered in the 1920's.

By his friends and older soil scientists Dr. de Endredy will be remembered not only for his ability, but also for his friendliness, kindness, warmth, humanity, and breadth of knowledge. His death leaves soil science the poorer and severs still another link with many eminent soil scientists of the past. To his widow and family our deepest sympathy is extended.

R.C. Mackenzie

Prof. Georges Manil (1914-1976)

Georges Manil n'est plus. Il laisse à tous ceux qui l'ont connu le souvenir d'un homme profondément honnête et intègre, attaché à sa famille autant qu'à sa profession, d'une personnalité extrêmement attachante par son côté de dévouement sans calculs et de compréhension humaine. Il aimait la nature et c'est sans doute ce qui lui fit choisir les études d'agronomie à l'Institut Agronomique de l'Etat à Gembloux, Belgique (devenue plus tard la Faculté des Sciences Agronomiques), d'où il sortit en 1935. Il s'orienta dès le début de sa carrière vers la pédologie et, dans ce but, compléta sa formation par une licence en sciences minéralogiques et géologiques à l'Université de Liège.

Il fut en 1948 le fondateur de la Chaire de Pédologie de la Faculté des Sciences Agronomiques de l'Etat à Gembloux, à laquelle il apporta tout son enthousiasme désintéressé et sa compétence technique et lui assura une réputation scientifique largement connue et bien méritée. Des générations d'étudiants ont profité de son enseignement et se souviendront de lui avec une gratitude amicale.

C'est encore son amour de la nature qui l'amena à choisir comme thème principal de recherche les sols forestiers de l'Ardenne belge. Avec l'appui financier de l'Institut pour la Recherche Scientifique dans l'Industrie et l'Agronomie (IRSIA), il établit le Centre d'Etude des Sols Forestiers qui, sous sa direction, apporta une large contribution à la connaissance des problèmes de fertilité et de mise en valeur des sols bruns acides de l'Ardenne.

Les problèmes de fertilisation et de conservation des sols agricoles furent également l'objet de ses préoccupations et le Prof. Manil assura la collaboration de la Chaire de Pédologie aux travaux du Comité pour l'étude de la fertilité chimique des sols et du Comité pour l'étude de l'altération du milieu de production agricole (IRSIA). C'est ainsi que l'étude du dynamisme du phosphore du sol et des facteurs d'érosion en région limoneuse sont maintenant deux thèmes principaux de recherche de la Chaire de Pédologie.

Le Prof. G. Manil a ainsi mis sur pied une organisation de recherche de premier plan et formé des collaborateurs de haut niveau qui étaient ses amis et se souviendront de lui avec émotion.

A. Pécrot

INTERNATIONAL RELATIONS
RELATIONS INTERNATIONALES
INTERNATIONALE VERBINDUNGEN

German-Dutch cooperation in soil survey



The soil survey institutes of Nordrhein-Westfalen in the German Federal Republic (Geologisches Landesamt, Krefeld, BRD) and the Netherlands (Stichting voor Bodemkartering) have had close contacts for many years. For the systematic 1:50 000 soil maps of both countries a joint sheet has now been mapped and published. Half of the sheet falls within Germany and half in the Netherlands. Two soil maps have been issued: Kaartblad 52 Oost, Venlo, using the Dutch legend for the whole area, and Blatt L 4502, Geldern, using the German legend for about the same area.

Despite the differences between soil classification systems and map legends of Germany and the Netherlands, there is much similarity between the delineated mapping units on both maps. The potential for applications of the two maps appears similar. Suitability interpretations based on the two maps correspond closely, whether for agriculture, horticulture, forestry, nature preservation, landscape protection, recreation or regional planning.

During a meeting on 30 September 1975 both soil maps were presented to a group of about one hundred colleagues, interested officials of agricultural and planning services and authorities of the region. Short papers were read on the results of the soil surveys and on application of soil maps for practical purposes. The relations between soil conditions, landscape and landuse were demonstrated during a half-day's excursion in the mapped region.

In addition to both soil maps a bilingual, illustrated booklet has been issued in which soil conditions and applications of soils surveys are outlined in a simple way.

The German-Dutch cooperation is important for the extension of knowledge and mutual understanding in soil science, especially by comparison and training in the use of different soil classification and legend systems during a practical soil mapping project. The concordance of both soil maps support regional planning across state boundaries as far as land-use and soil suitability are concerned. It may add to a greater uniformity in pedological views and it may be a first step towards a European soil map on a medium scale.

H. Maas, Krefeld
R.P.H.P. van der Schans, Wageningen

A new building for the International Soil Museum



Photograph H. Renaud

The 5th of March 1976 was a very important day in the history of the International Soil Museum, located in the Netherlands.

Setting off the driving in of the first pile, the Mayor of Wageningen started the construction of a specially designed building, which will contain the Museum's monolith collection, workshop, soil laboratory, rooms for staff members and guestworkers. Its total area will be about 1450 m².

At present the Museum is located at Utrecht, where it is housed in an old school building belonging to the State University.

In Wageningen, centre of agricultural education and research in The Netherlands and well-known to many scientists from abroad, the Museum adjoins the Department of Soil Science of the Agricultural University and is close to the Soil Survey Institute and other educational and research establishments working in the same or related fields. The constructions and fitting up of the new building will take about a year.

**ISSS DIARY
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1976

16-20 August 1976

International Conference on Managing Saline Water for Irrigation Planning for the Future, (Subcommission on Salt Affected Soils, ISSS), Texas Tech University, Lubbock, Texas.

Topics: – Problems in the use of saline water for irrigation and on procedures for predicting the impact of irrigation on soil salinity and the salinity of irrigation return flows.

– Guidelines for predicting salinity and alkalinity hazards and on standardization of analytical methods.

Field tours from 21 to 27 August.

Information and registration: Dr. H.E. Dregne, Dept. of Plant and Soil Science, Texas Tech University, Lubbock, Texas, 79409, U.S.A.

23-27 August 1976

Modification of Soil Structure (Commission 1, ISSS), Adelaide, Australia.

Topics: – Modification of soil structure in relation to aggregate stability and water movement.

1. Physics of soil structure: interparticle forces and the arrangement of soil constituents in relation to the stability and mechanical strength of aggregates.

2. Treatment of soil: the use of conditioners, inorganic amendments, tillage and biological agents for crop production, dams, water shedding, sand stabilisation and waste disposal.

There will be 3 days devoted to papers covering these two themes. One full day and one half day will be spent looking at soil structure in the field.

Information and registration: Dr. W.W. Emerson, CSIRO Division of Soils, Private Bag No. 1, Glen Osmond, South Australia, 5064.

8-10 September 1976

Symposium on Water in Heavy Soils (Commissions I and VI, ISSS), Bratislava, Czechoslovakia.

This joint meeting of Commission I and VI of the ISSS will be organized in cooperation with the International Commission on Irrigation and Drainage (ICID). The meeting will be hosted by the Institute of Hydrology and Hydraulics of the Slovak Academy of Sciences in collaboration with the National Committee of the ICID. The technical sessions will take place from 22-25 September 1976 and will be followed by a field tour from 26-29 September. The main topics suggested for the presentation of papers are:

(1) Solid-liquid interface phenomena as related to flow of water in swelling soils.

(2) Flow of water in swelling and shrinking soils. Laboratory and field data and methods.

(3) Theory and practical determination of design parameters for reclamation of heavy soils (e.g. the spacing and depth of underground drainage and the dimensioning of land constructions drainage exclusive of technological aspects of reclamation).

Papers should not exceed 4000 words, 2 tables and 5 illustrations. Manuscripts are requested to be in English, French or Russian.

Information and registration: Organizing Committee, Symposium on Water in Heavy Soils, Trnavaska. 88146 Bratislava. Czechoslovakia.

6-10 September 1976

11th Agrochimica Symposium on Soil Organic Matter; Symposium on the Use of Isotopes and Radiation in Soil Organic Matter Studies, Braunschweig, Federal Republic of Germany.

Two symposia organized jointly by the FAO/IAEA joint division, Agrochimica and Commission II, ISSS.

- Topics:
- Humus dynamics and soil productivity;
 - Effect of natural material and synthetic products on nitrogen economy in the soil ecosystem;
 - Modern techniques in soil organic matter research;
 - Biochemical transformation of organic materials added to the soil;
 - Special properties of single components of soil organic matter;
 - Soil organic matter and environmental protection;
 - Organic materials as fertilizers;
 - Convention about methods for isolation and identification of humic substance.

Information and registration: Prof. Dr. W. Flaig, Institut für Biochemie des Bodens, Forschungsanstalt für Landwirtschaft, 3301 Braunschweig, Bundesallee 50, Fed. Rep. of Germany.

1977

24-28 May 1977

5th International meeting of the ISSS Working Group on Soil Micromorphology, Granada, Spain.

The meeting is being organized by the University of Granada and the Instituto Nacional de Edafología y Agrobiología José Maria Albareda. It will include plenary lectures, presentation of papers as well as round table discussions on selected topics. A field trip through the south of Spain visiting Córdoba and Sevilla will follow the scientific sessions.

Included in Bulletin No. 48 is a notice of intent to attend and/or participate in the meeting. A preliminary programme with tentative schedule and information concerning accommodation will be sent to all who return this form.

Information and registration: Prof. Dr. D. Miguel Delgado Rodriguez, Departamento de Edafología, Facultad de Farmacia, Universidad de Granada, Granada, Spain.

22-29 May 1977

Second Meeting of the Working Group on Soil Information Systems (*Commission V, ISSS*), Sofia, Bulgaria.

This meeting is being organized by the Ministry of Agriculture and Food Industry, the N. Poushkarov Institute of Soil Science and the Society of Soil Science, Bulgaria.

Main topics of the meeting are:

- Data input methods
- Data storage and retrieval
- Methodology of data base management systems
- Applications of soil information systems.

The languages of the meeting will be English and Russian. Intent of participation should be communicated not later than 1 November 1976 by sending the Notice of Intent to the address shown below (see yellow pages in this Bulletin). Deadline for acceptance of papers is 1 December 1976. Papers should not exceed 3000 words. Registration fee: US \$ 40.

Information and registration: Prof. Dr. I.P. Garbouchev, Chairman, Organizing Committee of 2nd Meeting WGSIS, N. Poushkarov Institute of Soil Science, 5, Shosse Bankja, Sofia, Bulgaria.

15-21 August 1977

Classification and Management of Tropical Soils (Commissions IV and V, ISSS), Kuala Lumpur, Malaysia.

This joint inter-congress meeting of Commissions IV and V will be hosted by the Malaysian Society of Soil Science.

- Topics:
- Soil genesis, classification and cartography.
 - Evaluation of fertility status and fertilizer requirements:
 - tissue analysis in relation to fertilizer needs
 - soil analysis in relation to fertilizer needs
 - fertilizer requirements of (i) rice, (ii) plantation crops, (iii) other arable crops.
 - Soil management:
 - systems of tropical soil management
 - management of flooded soils
 - soil management for plantation crops
 - soil management for arable crops
 - management of problem soils in the tropics.
 - Land evaluation in tropical areas.

The technical sessions will be held in Kuala Lumpur from 15-21 August 1977. The Conference will be preceded, for those interested, by a pre-conference tour in Peninsular Malaysia from 8-14 August 1977. A post-conference tour will be organized in Sabah and Sarawak from 22-28 August 1977. On 29 August 1977, Malaysia will celebrate the 20th anniversary of its independence. Members interested in taking part in this Conference and tours should inform the Organizing Committee by sending the Notice of Intent (see yellow pages in this Bulletin).

Information and registration: Malaysian Society of Soil Science, c/o Soils and Crop Management Division, Rubber Research Institute of Malaysia, Jalan Ampang, P.O. Box 150, Kuala Lumpur, Malaysia.

4-11 September 1977

Symposium on "Soil as a Site Index for Forests of Temperate and Cool Zones". Zvolen, Czechoslovakia.

The session will be organized by the Working Group on Forest Soils, Commission V of the ISSS. It will deal with current problems of forest soil science and enhance contact among specialists in the field. The sessions will be held from 4-6 September 1977; excursions will be organized from 7-11 September 1977.

All contributions to the symposium should fall under one of the following subjects:

1. Forest soils of the temperate and cool zones, their classification, mapping and evaluation.
2. Utilization and man's influence on forest soils, through silvicultural measures, chemical effects, fertilization and other activities.
3. Methods for the analysis of forest soils.

The excursion from Zvolen to High Tatra, Big Fatra and Brno, will demonstrate the principal soils of the Western Carpathian mountains (some of them in natural forests) as well as forest research plots, thinnings and fertilization trials.

Information and registration: Prof. Dr. Rudolf Sály, Faculty of Forest Sciences, Sturova 2, 96053 Zvolen, CSSR.

4-11 September 1977

Symposium "Boden als Standortsfaktor der Wälder der gemässigten und kühlen Zonen", Zvolen, CSSR.

Die Tagung wird von der Arbeitsgruppe für Waldböden der V. Kommission der IBG organisiert und soll zur Behandlung aktueller Probleme der forstlichen Bodenkunde und zur Herstellung von Kontakten unter Fachkollegen dienen.

Folgende Termine sind vorgesehen: Tagung 4-6 September, Exkursion 7-11. September 1977.

Alle Beiträge zur Tagung sollten sich unter die folgenden Theme einordnen lassen:

1. Waldböden der gemässigten und kühlen Zone, ihre Klassifikation, Kartierung und Bewertung.

2. Nutzung und Beeinflussung von Waldböden durch den Menschen (waldbauliche Massnahmen, Chemisation und Düngung u.a.).

3. Methoden zur Untersuchung von Waldböden.

Während der Exkursion auf der Route Zvolen Hohe-Tatra, Grosse-Fatra, Brno werden Hauptbodentypen der Westkarpaten (einige davon in Urwäldern) und forstliche Versuchsflächen (Durchforstungen, Düngungsflächen) demonstriert.

Auskunft und Anmeldung: Prof. Dr. Rudolf Sály, Fakultät für Forstwirtschaft, Sturova 2, 96053 Zvolen, CSSR.

10-17 October 1977

International Seminar on Soil Environment and Fertility Management in Intensive Agriculture (Commission IV, ISSS), Tokyo, Japan.

This Seminar will be organized by the Society of the Science of Soil and Manure, Japan.

Suggested topics for the Seminar are:

1. Management of Soil Fertility for Maximizing Crop Yield

– Method of Fertilizer Application

– Management of Soil Organic and Inorganic Components

– Control of Irrigation and Drainage

– Behaviour of Nutrients in Plant and Soil

2. Effects of Intensive Farming on Soil and Water Environment

– Effect of Heavy Application of Fertilizers on Soil Properties

– Effect of Heavy Application of Fertilizers on Water Quality

– Soil Fertility as Influenced by Farming Systems

3. Soil Environment as a Basis for Intensive Agriculture

– Land Use Planning for Intensive Agriculture

– Evaluation Methods of Soil Productivity

– Biological Aspects of Soil Fertility

– Pollution problems in Farmland

4. Disposal and Utilization of Agricultural Waste

– Crop Residues

– Wastes from Animal Husbandry

– Re-cycling of Bioelements in Soil-Plant System.

The language of the Seminar will be English. Deadline for acceptance of papers is January 1, 1977. Papers should not exceed 3000 words.

Information and registration: Prof. K. Kawaguchi, Chairman, Organizing Committee of SEFMIA, Faculty of Agriculture, Kyoto University, Kyoto, Japan.

1978

19-27 June/juin/Juni 1978

11th Congress of the International Society of Soil Science

11ème Congrès de l'Association Internationale de la Science du Sol

11. Kongress der Internationalen Bodenkundlichen Gesellschaft

Edmonton, Canada.

Organized by the Canadian Soil Science Society (*see details in this Bulletin*).

Theme: Optimum Soil Utilization Systems under differing climatic restraints.

Thème: Systèmes optimum d'utilisation des sols sous différentes contraintes climatiques.

Thema: Optimale Bodennutzungssysteme bei unterschiedlichen klimatischen

Grenzbedingungen.

Information: Organizing Committee, 11th ISSS Congress, Box 78, Sub. 11, The University of Alberta, Edmonton, Canada.

**MEETINGS, CONFERENCES, SYMPOSIA
REUNIONS, CONFÉRENCES, SYMPOSIUMS
TAGUNGEN, KONFERENZEN, SYMPOSIEN**

1976

Colloque International sur "Les essais de fertilisation de très longue durée et leurs enseignements", colloque organisé sous le patronage de Monsieur le Ministre de l'Agriculture et sous la présidence du Directeur de l'Institut National Agronomique.

Centre de Grignon, 78850 Thiverval Grignon (15 km à l'ouest de Versailles), 6-8 juillet 1976.

Thème et but: A l'occasion du centenaire du dispositif expérimental mis en place par Deherain en 1875, ce colloque a principalement pour objet d'analyser les résultats des essais de fertilisation d'une durée supérieure à 50 ans qui ont été recensés et d'en tirer les enseignements suivants; intérêt et motivations scientifiques; effets sur le sol et les végétaux; conduite et interprétation de ces expériences (contraintes diverses).

Information: M. R. Gervy, 58, Av. Kléber, 75784 Paris Cédex 16, France.

13th Congress of the International Society of Photogrammetry, Helsinki, Finland, University of Technology, 11-21 July 1976.

Information: Dr. R.S. Halonen, Institute of Photogrammetry, Helsinki University of Technology, 02150 Otaniemi, Finland.

Regional Technical Meeting on Soil Science and Land Use, South Pacific Commission, Suva, Fiji, 26-30 July 1976.

Topics for discussion: country reports on soil survey, soil classification, soil correlation, soil survey interpretation, increased agricultural production, land use planning, regional cooperation.

Information: South Pacific Commission, Post Box D 5, Noumea Cedex, New Caledonia.

23rd International Congress of Geography, Moscow, U.S.S.R., 27 July-3 August 1976, organized by the International Geographic Union.

Information: The Secretary General, 23rd Int. Congress of Geography, 29 Staromenetny, per. Moscow 109017, U.S.S.R.

8th International Cartographic Conference, Moscow, U.S.S.R., 3-10 August 1976, organized by the International Cartographic Association.

Information: Organizing Committee, Onezhskaya 26, 125413 Moscow, U.S.S.R., or Prof. Dr. F.J. Ormeling, c/o ITC, P.O. Box 6, Enschede, The Netherlands.

Reclamation of Drastically Disturbed Lands, a symposium sponsored by ASA, CSSA, SSSA with the American Society of Agricultural Engineers, Society of American Foresters, Society for Range Management, Soil Conservation Society of America and The Institute of Ecology cooperating as cosponsors, at the Ohio Agricultural Research and Development Center, Wooster, Ohio, August 9-12, 1976.

Information: Soil Science Society of America, 677 South Segoe Road, Madison, WI 53711, U.S.A.

International Conference on Managing Saline Water for Irrigation Planning for the Future (Subcommission on Salt Affected Soils, ISSS). Texas Tech. University. Lubbock, Texas, U.S.A., 16-20 August 1976 (see also ISSS diary).

Information: Dr. H.E. Dregne, Dept. of Plant and Soil Science, Texas Tech. University, Lubbock, Texas 79409, U.S.A.

Modification of Soil Structure (Commission I, ISSS), Adelaide, Australia, 23-27 August 1976 (See also ISSS diary).

Information: Dr. W.W. Emerson, C.S.I.R.O. Div. of Soils, Private Bag No 1, Glen Osmond, South Australia, 5064.

25th International Geological Congress, Sydney, Australia, August 1976.

Information: The Secretary General, 25th IGC, P.O. Box 1892, Canberra City, ACT 2601, Australia.

11th Agrochimica Symposium on Soil Organic Matter and Symposium on the Use of Isotopes and Radiation in Soil Organic Matter Studies (Agrochimica, FAO/IAEA, Commission I, ISSS), Braunschweig, Federal Republic of Germany, 6-10 September 1976 (See also ISSS diary).

Information: Prof. Dr. W. Flaig, Inst. für Bodenchemie des Bodens, Forschungsanstalt für Landwirtschaft, 3301 Braunschweig, Bundesallee 50, BRD.

4th International Colloquium on the Control of Plant Nutrition, State University of Ghent, Belgium, 6-11 September 1976.

This Colloquium will bring together plant nutritionists and agronomists using plant analysis for nutrient diagnosis of crops and for studying the relationship between soil and qualitative and quantitative production.

Themes: 1. Methodology and analysis, 2. Fruit culture, 3. Vegetable crops, 4. Vine culture, 5. Ornamental plants, 6. Other Mediterranean crops, 7. Large culture crops, 8. Tropical crops.

Communications can be presented in English, French, Spanish, German, Russian and Dutch. An abstract in French and/or English will be required.

Information and registration: Prof. Dr. A. Cottenie, Coupure 533, B-9000 Ghent, Belgium.

4ème Colloque International sur le Contrôle de l'Alimentation des Plantes Cultivées, Université de l'Etat, Gand, Belgique, 6-11 September 1976.

Ce colloque rassemblera les nutritionnistes et agronomes qui utilisent l'analyse des plantes pour déterminer les besoins alimentaires des cultures et pour étudier les relations entre le sol et la production qualitative et quantitative.

Thèmes: 1. Méthodologie et analyse, 2. Cultures fruitières, 3. Cultures maraichères, 4. Viticulture, 5. Plantes ornementales, 6. Autres cultures méditerranéennes, 7. Plantes de grande culture, 8. Cultures tropicales.

Les communications peuvent être présentées en anglais, français, espagnol, allemand, russe, néerlandais, mais avec résumé en français ou/et anglais.

Information et inscription: Prof. Dr. A. Cottenie, Coupure 533, B-9000 Gand, Belgique.

ICID First Regional Conference for Asia and Africa. Ministry of Reclamation and Water Management, Tashkent, USSR, 7-11 September 1976.

Socio-economic aspects of irrigation, drainage and flood control in the Agro-Asian countries.

The working languages will be Russian, English and French, simultaneous translation into these languages will be provided.

Information: Secretariat, ICID First Regional Afro-Asian Conference, 1/11 Orlikov per., 107139, Moscow, USSR.

Symposium on Water in Heavy Soils (Commissions I and VI, ISSS), Bratislava, Czechoslovakia, 8-10 September 1976 (See also ISSS diary).

Information: Organizing Committee, Symposium on Water in Heavy Soils, Trnavska 20, 88146 Bratislava, Czechoslovakia.

First World Fertilizer Conference – The Fertilizer Institute, New York, USA, 19-22 September 1976.

Information: The Fertilizer Institute, 1015 18th Street, N.W. Washington D.C. 20036, USA.

Symposium on Eutrophication of Surface Waters and their Rehabilitation. UNEP - German Democratic Republic, 20-25 September 1976.

This symposium is organized by UNEP in co-operation with the Institute of Water Management of the Ministry of Environmental Protection and Water Management of the German Democratic Republic.

Discussion on the protection of the quality of natural waters in temperate, subtropical and tropical zones against eutrophication.

Information: EUTROSYM '76 Sekretariat, Institut für Wasserwirtschaft, DDR - 119 Berlin, Schnellerstr. 140, German Democratic Republic.

5th International Peat Congress, Poznań, Poland, 20-26 September 1976, organized by the Polish National Committee of the International Peat Society.

Theme: "Peat and Peatlands in protection of the Natural Environment".

Information: The Secretariat, 5th International Peat Congress, ul. Wspólna 30, 00-930 Warsaw 71, Poland.

Stickstoff-Versorgung von Böden und Pflanzen (Dynamik und Verfügbarkeit in Böden, Gehalt und Verteilung in Pflanzen, Düngung und ihre Auswirkung). Vortrags-tagung der Kommission IV in Verbindung mit Kommission III und der Fachgruppe I des VDLUFA, Oldenburg, 22-23 September 1976.

Für Interessenten besteht ferner die Möglichkeit an der Bodenfruchtbarkeits-Exkursion des VDLUFA am 24 September Nachmittag teilzunehmen.

Anmeldung: Prof. Dr. H. Kick, Agrik. Chem. Inst., Meckenheimer Allee 176, 53 Bonn, BRD.

Hill Lands - Their Effective Use and the Future, Morgantown, West Virginia, USA, 3-9 October 1976.

An International Symposium sponsored by West Virginia University, in cooperation with the United States Agency for International Development, the United States Department of Agriculture-Agricultural Research Service and the American Forage and Grassland Council.

Information: Hill Land Symposium Committee, R.L. Reid, Chairman, College of Agriculture & Forestry, West Virginia University, Morgantown, WV 26506, USA.

Transport von Wasser sowie gelösten und suspendierten Stoffen. Sitzung der Kommissionen I und II der Deutschen Bodenkundlichen Gesellschaft in Göttingen am 4 und 5 Oktober 1976.

Anmeldung: Institut für Bodenkunde und Waldernährung, 3400 Göttingen-Weende, Büsgenweg 2, BRD.

Jornadas de avances en conservación y manejo de suelos en ambientes semiaridos, Santa Rosa, provincia de la Pampa, 7-8 October 1976.

Information: Ass. Argentina de la Ciencia del Suelo, CerViño 3101, Buenos Aires, Argentina.

The Use of Agricultural Maps in the Organization of Production, Budapest, Hungary, 20-22 October 1976, organized by the National Office of Lands and Mapping of the Ministry of Agriculture and Food of the Hungarian People's Republic, the Hungarian Museum of Agriculture and the Hungarian Society of Geodesy and Cartography.

This Conference will be held in conjunction with an exhibition on "Maps in the Service of Agriculture" which will take place from 19 October to 1 November 1976.

Information: National Office of Lands and Mapping, Budapest, V., Kossuth Lajos tér 11, Hungary.

9th. Congress of the Sociedad Mexicana de la Ciencia del Suelo, Durango, 24-27 November, 1976.

Information: Soc. Mexicana de la Ciencia del Suelo, Apto. Postal 65, Chapingo, Mexico.

Annual Meetings of the American Society of Agronomy, Crops Science Society of America and Soil Science Society of America, Houston, Texas, Nov. 28-Dec. 3, 1976.

Information: Soil Science Society of America, 677 South Segoe Road, Madison, WI 53711, USA.

Second International Symposium on Land Subsidence, Anaheim, California, USA, 10-17 December 1976.

Symposium sponsored by the International Association of Hydrological Sciences within the framework of the International Hydrological Programme.

Topics: Causes, effects and control of land subsidence, taking stock of the advance of knowledge since the 1969 symposium in Tokyo.

Information: Arnold I. Johnson, President, Commission of Subsurface Water, Intern. Assoc. of Hydrological Sciences, U.S. Geol. Survey, Nat. Center, MS 417, Reston, Virginia 22092, USA.

Drainage for Increased Crop Production and a Quality Environment, a symposium sponsored by the American Society of Agricultural Engineers with ASA and SSSA cosponsoring, Chicago, Illinois, Dec. 13, 1976.

Information: Soil Science Society of America, 677 South Segoe Road, Madison, WI 53711, USA.

1977

United Nations Water Conference, Mar del Plata, Argentina, 7-18 March 1977.

Themes:

- Assessment of the world water situation,
- Potential and limitations of technology,
- Policy options,
- Action proposals.

Information: Executive Secretary, United Nations Water Conference, United Nations, New York, USA.

Second Meeting of the Working Group on Soil Information Systems (Commission V, ISSS), Sofia, Bulgaria, 22-29 May 1977 (See also ISSS diary).

Information: Prof. Dr. I.P. Garbouchev, Chairman, Organizing Committee of 2nd meeting WGSIS, "N. Poushkarov" Inst. of Soil Science, 5, Shosse Bankja, Sofia, Bulgaria.

5th International Meeting of the ISSS Working Group on Soil Micromorphology, Granada, Spain, 24-28 May 1977 (See also ISSS diary).

Information: Prof. Dr. D. Miguel Delgado Rodriguez, Dep. de Edafologia, Facultad de Farmacia, Univ. de Granada, España.

XVI Congresso Brasileiro de Ciencia do Solo, Sao Luis, MA. 11-16 July 1977.

Information: Secretaria Executiva, S.B.C.S., Inst. Agr., C.P. 28, Campinas, SP - CEP 13.100, Brazil.

Classification and Management of Tropical Soils (Commission IV and V, ISSS), Kuala Lumpur, Malaysia, 8-29 August 1977 (See also ISSS diary).

Information: Malaysia Society of Soil Science, c/o Soils and Crop Management Division, Rubber Research Inst. of Malaysia, Jalan Ampang, P.O. Box 150, Kuala Lumpur, Malaysia.

10th Congress of INQUA, Union Internationale pour l'Étude de Quaternaire, Birmingham, U.K., 16-26 August 1977.

Information: Secretary General, INQUA, c/o Dept. Geology, Keele University, Keele St. 55 BG, U.K.

United Nations Conference on Desertification, Nairobi, Kenya, 29 August-5 September 1977.

Assessment of all available data and information on desertification and its consequences on the development process, preparation of a world map of areas affected or likely to be affected by the process of desertification, action plan to combat desertification.

Information: U.N. Conference on Desertification, UNEP, P.O. Box 30552, Nairobi, Kenya.

Symposium on "Soil as a Site Index for Forests of Temperate and Cool Zones" (Commission V, ISSS), Zvolen, Czechoslovakia, 4-11 September 1977 (See also ISSS diary).

Information: Prof. Dr. R. Sály, Faculty of Forest Sciences, Sturova, 960-53 Zvolen, CSSR.

International Seminar on Soil Environment and Fertility Management in Intensive Agriculture (Commission IV, ISSS), Tokyo, Japan, 10-17 October 1977 (See also ISSS diary).

Information: Prof. K. Kawaguchi, Faculty of Agriculture, Kyoto Univ., Kyoto, Japan.

1978

11th Congress of the International Society of Soil Science
11ème Congrès de l'Association Internationale de la Science du Sol
11. Kongress der Internationalen Bodenkundlichen Gesellschaft.

Edmonton, Canada, 19-27 June 1978.

Theme: Optimum Soil Utilization Systems under differing climatic restraints.

Thème: Systèmes d'utilisation optimum du sol sous différentes contraintes climatiques.

Thema: Optimale Bodennutzungssysteme bei unterschiedlichen klimatischen Grenzbedingungen.

Information: Organizing Committee, 11th ISSS Congress, Box 98, Sub. 11, The University of Alberta, Edmonton, Canada.

Dixième Congrès des Irrigations et du Drainage, Athènes, Grèce, 1978.

Information: Secrétaire général, I.C.I.D., 48, Nyaya Marg, Chanakyapuri, New Delhi 110021, Inde.

NEW PUBLICATIONS *
NOUVELLES PUBLICATIONS *
NEUE VERÖFFENTLICHUNGEN *

Géologie, Géomorphologie et Hydrologie des Terrains salés, par Gilbert Gaucher et Sylvie Burdin, 240 p. Paris, Presses Universitaires de France, 1974. Collection "Techniques vivantes". ISBN: 2-85319-007-2.

Ce livre traite essentiellement des sols affectés par la salinisation d'origine géologique, c'est-à-dire dont la salure trouve son origine dans les couches sédimentaires. Les auteurs considèrent que cette forme de salinisation est la plus répandue sur le globe, notamment dans les zones arides et subarides. Leur expérience a montré qu'à elle seule l'étude des caractéristiques chimiques des sols conduit à des résultats décevants dans le domaine des aménagements agricoles. En raison de la variabilité des teneurs en sels de ces terrains, aussi bien dans l'espace que dans le temps, et des difficultés d'interprétation des données analytiques, il apparaît que pour bien connaître les sols salés et apprécier leur aptitude à la culture ainsi que leurs possibilités de dessalement, il est nécessaire de les situer et de les étudier dans leur contexte géologique, géomorphologique et hydrologique.

Les critères de salinisation comprennent des facteurs géologiques (stratigraphie, lithologie, orogénie, etc. . .), géomorphologiques (structures et formes de relief génératrices de salinisation, formes résultant de l'accumulation des sels) et hydrologiques (cours d'eau et nappes acquifères salés). Au stade de la prospection des terrains, le pédologue pourra faire intervenir des critères floristiques, phytosociologiques et chimiques.

Les auteurs expliquent les relations existant entre tous ces facteurs et ces critères permettent le pédologue de disposer d'une vue d'ensemble des mécanismes qui provoquent la salure des terres dans la région prospectée, et d'étudier ces mécanismes dans une démarche conforme à la logique des phénomènes naturels.

Prix: FF 40

Commandes: Presses Universitaires de France, Paris, France.

Glossary of Terms in Soil Science, edited by Rode A.A. et al., 1975, 286 p. Moscow (in Russian).

The book provides almost all definitions used in soil science in the USSR. Special attention is given to some soil constituents like clay minerals for which not only the definition but some chemical and physical characteristics are given as well. For some physical and chemical processes the formulas and equations are described. In this connection it is much more like a handbook in soil science than a glossary. Some terms connected with soil management and soil tillage are also included. The total number of terms described exceeds 2 300. The glossary has great significance in that it attempts to unify soil terminology.

Orders to: Publishing House for Science, Moscow, U.S.S.R.

S. Krastanov, Rome, Italy.

Soil Conditioners, SSSA Special Publication No. 7, 1975, 186 + xiv p., 59 tables, 70 figures.

The papers of this new book were presented at a 1973 symposium, "Experimental Methods and Uses of Soil Conditioners", sponsored by the Soil Science Society of America and the International Society of Soil Science. Scientists presented theories and field tests on how soil conditioners could be used to deal with soils in a variety of situations - agricultural production, industrial sites, pollution control, road construction, and water management. The book discusses adhesion and adsorption phenomena, application of polyvinyl acetate and alcohol, bentonite, bitumen emulsion and polyacrylamide, erosion reduction, evaporation, infiltration, natural mulch, organic polymers and hydrous iron oxides, organic matter contribution to stability, seedbeds improved by rototilling wet soil, shredded tree bark as a conditioner, soil conditioners around the world, soil stabilizers to control wind erosion, soil water repellency, use of nonionic surfactants, water harvesting from treated watersheds, and water movement.

Members of the editorial committee of 'Soil Conditioners' include W.R. Gardner, M.M. Mortland, C.I. Rich, and C.E. Clapp.

Price: \$ 7.00 (advance payment and 50 cents postage on all orders outside the USA)

Orders to: Soil Science Society of America, 677 South Segoe Road, Madison, WI 53711, USA.

* Titles of new publications are listed here for information. Orders can however not be handled by the ISSS Secretariat but should be placed through a bookstore or directly with the publishers.

* Les titres de nouvelles publications sont mentionnés à titre d'information. Le Secrétariat de l'AISS ne peut toutefois pas se charger de commandes, celles-ci devant être adressées à une librairie ou directement aux éditeurs.

* Die Titel neuer Veröffentlichungen sind hier zur Information angeführt. Bitte richten Sie Ihre Bestellungen nicht an das IBG Sekretariat sondern an den Buchhandel oder direkt an die Verlage.

Multilingual Technical Dictionary on Irrigation and Drainage.

Dictionnaire Technique Multilingue des Irrigations et du Drainage.

Giving the prevalent concepts and definitions of over 10 000 terms in English usage principally and with certain limitations in French usage. Printed on Royal Octavo size, bound, classified under 16 chapters with an index of the terms at the end. 820 pages. I.C.I.D. 1967.

Price: US \$ 12.00

Orders to: International Commission on Irrigation and Drainage, 48, Nyaya Marg, Chanakyapuri, New Delhi 110021, India or National Committees of the Commission.

Forest Assessment, by D. Heinsdijk, 359 p., 1800 references. ISBN: 90-22-0550-X.

The forest cover of the earth is dwindling. This book aims at describing the many aspects of forestry by assessing its value for industry, soil protection, recreation, etc. or in short: for general welfare. It furthermore intends to give the interested layman an impression of the many factors and considerations on which forestry has been and will be based. Ultimately, it may stimulate the professional forester to realize once more that his work is so clearly interwoven with other aspects of human society (and nature) that he cannot afford to continue living in the splendid isolation of the past, caring solely for 'his' forest and closing his eyes to the exploitation of natural resources.

The book is based on the experience of the author in various countries of the world (including the tropics) and on a comprehensive study of literature.

An extensive bibliography concludes the book.

Price: Dfl.60,- cloth bound.

Orders to: Centre for Agricultural Publishing and Documentation, P.O. Box 4, Wageningen, The Netherlands.

Plant Analysis and Fertilizer Problems. Vols. I and II, 598 p. Published by German Society of Plant Nutrition.

Proceedings of the 7th International Colloquium on Plant Analysis and Fertilizer Problems held in Hannover, September 1974, these volumes contain 49 papers read at the meetings.

Price: US \$ 11.00

Orders to: Institut für Pflanzenernährung, Herrenhäuser Str. 2, 300 Hannover 21, Germany, Prof. Dr. J. Wehrmann, Hannover, Germany.

Soil Map of the World, scale 1:5 000 000, Vol. I, Legend, 59 p., 1 map sheet, 1974, Unesco, Paris. ISBN: 92-3-101125-1.

Carte Mondiale des Sols, échelle 1:5 000 000, Vol. I, Légende, 62 p., 1 carte, 1975, Unesco Paris. ISBN: 92-3-1125-5.

Mapa Mundial de Suelos, escala 1:5 000 000, Vol. I, Leyenda, 60 p., 1 mapa, 1976, Unesco, Paris. ISBN: 92-3-301125-9.

This volume is the first of a set of ten which make up the complete publication of the Soil Map of the World. Following an introduction to the history of the Soil Map of the World Project, Volume I, Legend, presents the definitions of the 106 soil units on which the Legend is based. An account is given of how the nomenclature, which was internationally agreed upon, came into being and how the Soil Map of the World units correlate with other major soil classification systems. Definitions are also given of soil horizon designations, diagnostic horizons and properties, and phases. The definitions of the soil units are summarized into a comprehensive key. This volume has also been published in French and Spanish and a Russian translation is in preparation.

The volume is accompanied by a map sheet showing the soil units in four languages in tabular form with the corresponding symbols and colour separations and with an analytical colour charts.

La Carte Mondiale des Sols comprend au total dix volumes dont le présent volume, Légende, est le premier. On y trouve, après une introduction et une historique du projet, la définition des 106 unités pédologiques qui sont à la base de la légende générale de la Carte Mondiale des Sols. On y explique l'origine de la nomenclature, qui fut le résultat d'une concertation internationale, et la corrélation des différentes unités avec d'autres systèmes de classification. Ce volume comprend également les définitions des horizons et caractères diagnostiques, des désignations des horizons pédologiques et des phases. Les définitions des unités pédologiques sont résumées dans une clé systématique. Ce volume a également été publié en Anglais et Espagnol; une traduction en Russe est en préparation.

Ce volume est accompagné d'une carte présentant, sous forme de tableau, les unités pédologiques en quatre langues avec symboles et couleurs correspondants utilisés dans la carte; la composition des couleurs est également indiquée.

Price/Prix: text/texte FF 25; map/carte FF 50.

Orders to/Commandes: Unesco place de Fontenoy, Paris 7ème, France or National Sales Agents of Unesco Publications.

Soil Map of the World, Vol. III, Mexico and Central America, 96 p., 6 figures, 1 soil map at scale 1:5 000 000, 1975, Unesco, Paris. ISBN: 92-3-101127-8.

This volume describes the sections on Mexico and Central America of the 1:5 000 000 scale Soil Map of the World. This publication deals with the main factors that have close relationships with soil distribution and soil formation in this part of the world, namely climate, vegetation,

physiography and surface geology. A major part of the publication is devoted to the description of the main soils of the Region, giving also a description of land use and suitabilities for agriculture. Profile descriptions and analyses are given in an appendix.

This study of the soils of Mexico and Central America, including the Caribbean Islands, shows that in this Region soils of fair to good natural fertility outnumber soils of low natural fertility. A part of the latter can be brought to satisfactory levels of production with relatively simple agricultural techniques. Main limitations to improved farming systems stem from steep topography and from moisture shortage. Intensification of agriculture in this Region still offers prospects for development.

Price: explanatory text FF 35; map sheet FF 50.

Orders to: Unesco Press, place de Fontenoy, Paris 7ème, France or National Sales Agents of Unesco Publications.

Carte Mondiale des Sols, échelle 1:5 000 000, Vol. VI, Afrique, (3 feuilles), 307 p., 7 cartes schématiques, 1976, Unesco, Paris. ISBN 92-3-299930-7.

Cet ouvrage décrit la partie relative à l'Afrique de la carte mondiale des sols FAO/Unesco. A titre d'introduction, on trace l'histoire du projet et l'on passe en revue les travaux principaux qui sont à la base de l'établissement de cette carte des sols du continent africain. On expose les facteurs du milieu dont dépendent étroitement la répartition des sols en Afrique: le climat, la végétation, la physiographie, la géologie et la lithologie. On distingue douze grandes régions climatiques, la végétation est répartie en neuf grands types de formation végétale et la physiologie est étudiée dans le cadre de dix-huit régions physiologiques. La géologie et la lithologie font l'objet d'une subdivision en trente grandes régions.

La majeure partie de l'ouvrage est consacrée aux associations de sols en Afrique et à un examen de leur utilisation et de leur vocation agricole. Ce sujet est abordé d'abord d'une manière générale à l'aide d'une carte de répartition de la population à petite échelle et d'une description des différents systèmes agricoles utilisés en Afrique. Les principaux types de sols sont ensuite étudiés séparément en ce qui concerne leur utilisation actuelle et leurs aptitudes à l'agriculture tant traditionnelle que moderne. Une annexe présente la description et l'analyse de quarante profils représentatifs des sols principaux trouvés en Afrique.

La présentation cartographique et chiffrée des ressources en sols et de leur potentiel productif constitue un élément précieux pour le développement agricole en Afrique. De plus, cet ouvrage présente un intérêt didactique et scientifique considérable.

Commandes: Presses de l'Unesco, Place de Fontenoy Paris, 7ème, France ou Agents de distribution nationaux des publications Unesco.

Laterite Soil Engineering – Pedogenesis and Engineering Principles, by M.D. Gidgasu, Senior Research Officer and Head, Soil Mechanics and Foundation Engineering Division, Council for Scientific and Industrial Research, Building and Road Research Institute, Kumasi, Ghana. 1975. 554 p. ISBN: 0-444-41283-2.

This publication presents information on the genesis, nature, geotechnical properties and engineering behaviour of laterite soils needed for standardising principles and testing procedures used for evaluating all types of laterite soil for engineering purposes. Laterite soil engineering is presented as a simultaneous geotechnical consideration of all the major factors influencing the behaviour of rocks and their pedogenetically derived soils. It is primarily addressed to engineering geologists and soil engineers in tropical and subtropical regions.

Price: US \$ 83.50 or Dfl. 200.00.

Orders to: Elsevier, P.O. Box 211, Amsterdam, The Netherlands.

Soils of the West African Savanna – The Maintenance and Improvement of their Fertility, by M.J. Jones, Institute for Agricultural Research, Samaru, Zaria, Nigeria and A. Wild, University of Reading, England. 246 p., 9 figures, 575 refs. ISBN: 0-85198-348-0.

Demographic pressures are bringing changes in savanna agriculture that endanger the long-term potential of the already impoverished soil. This book, drawing extensively on research findings in soil fertility and crop production from a dozen West African countries, discusses the prospects of increasing and maintaining fertility in more intensive systems of agriculture, in which the traditional bush fallow no longer has a place. The work is divided into three parts:

- The agricultural background: climate, soils, and traditional farming practices;
- The present pattern of soil fertility and its interaction with farming practice;
- The potential for a sustained improvement in fertility through management of soil physical and chemical properties.

Price: L. 6.50 - \$ 16.25.

Orders to: Commonwealth Agricultural Bureaux, Central Sales Branch, Farnham House, Farnham Royal, Slough SL2 3BN, England.

Atlas of Infrared Spectroscopy of Clay Minerals and their Admixtures, by H.W. Van der Marel, Soil Mechanics Laboratory, Delft, The Netherlands, and H. Beutelspacher, formerly Institute of Soil Biochemistry, Agricultural Research Centre, Braunschweig-Völkenrode, Germany, in collaboration with P. Krohmer, Überlingen, Germany, and E. Rietz, Braunschweig, Germany. Elsevier, 1976, xii + 404 p. ISBN: 0-444-41187-9.

This volume comprises an up-to-date review of research in infrared spectroscopy of clay

minerals and their admixtures. The material presented is based on a study of samples from many countries, classical localities and particular sediments. About 1500 spectra, including spectra from soil organic matter, have been selected from a total of 4000 samples.

This atlas is a companion volume to a previously published one in which over 200 of the same samples were investigated by electron microscopy. Although these two volumes form an entity, they are fully independent and can be used separately.

Price: US \$ 65.95 - Dfl. 165.00.

Probleme der Wasserregulierung auf Niedermoor. (Water regulation on fens). Akademie der Landwirtschaftswissenschaften der Deutschen Demokratischen Republik. Nationalkomitee der DDR in der Internationalen Moor- und Torfgesellschaft (IMTG), 1974, 396 Seiten.

Diese Broschüre enthält 23 eingereichte Beiträge zum Internationalen Symposium über Probleme der Wasserregulierung auf Niedermoor, das im Mai 1974 in Eberswalde abgehalten wurde. Drei Themenkreise standen auf dem Programm der wissenschaftlichen Tagung: Fragen des Bodenwasserhaushaltes, Methoden und Verfahren der Wasserregulierung auf Niedermoor; und Tiefpluggkultur auf sandunterlagertem Moor. Für die Kultivierung und Bewirtschaftung der Niedermooere ergibt sich in erster Linie die Aufgabe, hohe und stabile Erträge zu sichern. Bei Praxiserträgen von 90 dt Trockenmasse je ha und mehr hat die alleinige Entwässerung unter den Klimabedingungen der DDR in der Regel Grundwasserabsenkungen zur Folge, die aus der Sicht der Bodenentwicklung bedenklich sind. Deshalb wird anstelle der "Nur-Entwässerung" die Regulierung des Grundwassers vertreten – gilt es doch, die Reproduktion der Bodenfruchtbarkeit auf lange Sicht, in Permanenz, zu sichern. Mit dieser Forderung, hohe Erträge nicht nur heute, sondern auch für die Zukunft zu garantieren, ist bei der Instabilität und Verschiedenartigkeit der Niedermoorböden, insbesondere wenn klimatische Unterschiede einbezogen werden, ein ganzer Komplex von Forschungsaufgaben verbunden. Die Breite der in den Beiträgen zum Symposium behandelten Fragen, die direkt oder indirekt mit dieser Problematik zusammenhängen, zeigt das sehr deutlich. Die verschiedenen Auffassungen der Autoren werden sicher neue Impulse auslösen und zur Förderung des wissenschaftlichen technischen Fortschrittes beitragen.

Bestellungen: Dr. A. Scholz Inst. für Futterproduktion der AdL 1551 Paulineau über Nauen/DDR.

Soil Management in Tropical America/Manejo de Suelos en la America Tropical. 1974, 565 p. Available in English or Spanish.

This volume contains the papers presented at the Seminar on Soil Management and the Development Process in Tropical America which was held at CIAT, Cali, Colombia, from 10-14 February 1974. The Seminar was organized by the USA University Consortium on Soils of the Tropics to discuss advances of relevant research on the application of soil science to the development of this Region. The 33 papers submitted to the Seminar are presented under the following major sections: – Soil Characterization and Classification; – Soil-Plant-Water Relations; – Nitrogen Sources and Use; – Management of Acid Soils; – Soil Management Systems; – Soil Fertility Evaluation; – Approach and Coordination of Soils Research for Development. It is obvious that no single publication can include all recent research that is presently being conducted on soils in Tropical America. This collection of papers, however, gives ample indication of the quality and progress of tropical soil science in Latin America and of its contribution to the solution of significant problems which limit agricultural production.

Orders to: Soil Science Department, North Carolina State University, Raleigh, N.C. 27607, USA. *Price:* \$ 5.

Soils and Field Drainage, edited by A.J. Thomasson from contributions by D. MacKney, A.J. Thomasson (Rothamsted Experimental Station), B.D. Trafford and R.A. Walpole (Land Drainage Service, Ministry of Agriculture, Fisheries and Food - U.K.), 80 p., 1 map at scale 1:63 360, 1975.

The aim of this volume is to bring together information, observations and experimental work on the soil properties influencing drainage design in Britain against a background of appropriate soil series as defined and mapped by the Soil Survey of England and Wales.

After a brief account of the historical background, present drainage design is detailed. The effect of soil properties and site factors are then defined and the interpretation of soil maps for drainage purposes is described. In final chapters the relation of drainage design to soil series is considered together with hydrological and environmental aspects.

The book is illustrated with 14 text figures and a coloured map of 'Types of soil water regime' in England and Wales at a scale of 1:2 000 000. A map of 'Predicted underdrainage treatment for arable land use' in the Abingdon-Wantage district is also included as an example of the way such maps can be used to help drainage designers.

Price: L. 1.30 with map; L. 1 without map.

Orders to: Soil Survey of England and Wales, Rothamsted Experimental Station, Harpenden, Herts. AL5 2JQ, England.

Los suelos de la cuenca de Puebla-Tlaxcala. Investigaciones acerca de su formación y clasificación. Por Hans Aepli y Ernst Schönhals, 1975, 152 Seiten, 40 Abb., 51 Tab., 8 Taf., 1 Bodenkarte 1:100 000. ISBN 3-515-02041-1.

Fortsetzungswerk (VIII) des Mexico Projektes der Deutschen Forschungsgemeinschaft, eine deutsch-mexikanische interdisziplinäre Regionalforschung im Becken von Puebla-Tlaxcala.

Das untersuchte Gebiet gehört zu den fruchtbarsten und landwirtschaftlich wichtigsten Naturräumen Mexikos. Schon allein aus diesem Grund sind die bodenkundlichen Forschungen von grosser Bedeutung. Zum ersten Mal wird umfassend über die Entwicklung der verschiedenartigen Böden und ihre ökologischen Eigenschaften berichtet. Eine kolorierte Bodenkarte im Masstab 1:100 000 mit einer Legende in Spanisch und Deutsch gibt die Verbreitung der Böden wieder und lässt die Beziehungen zwischen Boden, geologischem Bau, Klima, Vegetation, Besiedlung und Bodennutzung erkennen. Die Untersuchungsergebnisse bilden die Grundlage für die Beurteilung aktueller Boden-Probleme des dicht besiedelten Gebietes, so vor allem für die Bodenerosion und Bewässerung sowie den Umweltschutz.

Preis: DM 80 - Linson gebunden.

Bestellungen: Franz Steiner Verlag GmbH Postfach 5529 - D-6200 Wiesbaden.

Bodenkunde und ihre geologischen, geomorphologischen, mineralogischen und petrologischen Grundlagen.

Prof. Dr. phil. Dr. rer. techn. Eduard Mückenhausen, DLG - Verlag, 632 Seiten, 1975, 185 Schwarzweissabbildungen, 24 Vierfarbtafeln.

Dieses Lehrbuch ist ein geschlossener Grundriss der Bodenkunde und ihrer geowissenschaftlichen Grundlagen. Im ersten Teil des Buches werden die geologischen, mineralogischen, petrologischen und geomorphologischen Grundlagen der Bodenkunde soweit dargestellt, als es für das Verständnis der Entstehung, den Aufbau und die Eigenschaften der Böden notwendig ist. Hierbei sind Verwitterung als Voraussetzung der Relief- und Bodenbildung sowie die Tonminerale im Zusammenhang mit der Sediment- und Bodenbildung einbezogen. Im zweiten Teil werden zunächst das Ergebnis der Verwitterung der Gesteine, nämlich die Textur und die stoffliche Zusammensetzung des anorganischen Bodenanteiles, dargeboten. Daran schliesst sich das Kapitel über den organischen Bodenanteil an. Auf die Bodenkomponenten bauen sich die physiko-chemischen Eigenschaften auf. Die weitere Betrachtung des Mikro- und Makrogefüges vervollständigt die Grundlage für die Darstellung des Wassers im Boden, der Bodenluft und der Bodenwärme. Alle diese Voraussetzungen erlauben nun die Betrachtung der Bodenorganismen und deren Arbeit im Boden. Es folgen die bodenbildende Prozesse, und daran schliesst sich die Bodensystematik an. Die Bodentypen Mitteleuropas werden eingehender, die wichtigsten der übrigen Erde kürzer dargestellt, dieser Teil wird durch 28 farbige Profile weitverbreiteter Böden anschaulich gemacht. Für die Paläoböden ist ein besonderes Kapitel vorgesehen. Ergänzende Kapitel über Bödenkartierung, Bodenerhaltung, Kreislauf der Stoffe in der Erdkruste und an deren Oberfläche, Bodenschätzung sowie Untersuchung des Bodens im Felde vervollständigen das Bild.

Preis: DM 190, - Linson gebunden.

Bestellungen: DLG-Verlag D-6000 Frankfurt (M) - 1 Rüterstrasse 13, BRD.

Bodenkunde und ihre geologischen, geomorphologischen, mineralogischen und petrologischen Grundlagen. (Soil Science its geological, geomorphological, mineralogical and petrological base, in German), by prof. Dr. phil. Dr. rer. techn. Eduard Mückenhausen, DLG Verlag, 1975, 632 p., 185 black and white figures, 24 colour plates.

The book - as the author indicates it in the preface - deals with general soil science, mainly in respect to geomorphology, mineralogy, geology and petrology. It consists of two main parts: I, the principles of the geology, geomorphology, mineralogy, petrography of soils; II, soil science. The extent of part I is approximately one-third, while part II is two-thirds of the volume.

Chapters 1 and 2 of part I deal with the general aspects, geology and history of the earth, while chapters 3 and 4 review recent knowledge of the surface of the globe. Chapters 5 and 6 deal with the endogen and exogen geological processes, while the final chapter 7 deals with short history of our planet.

In part II, the first two chapters are devoted to the subject and history of soil science. Chapter 3 discusses the mechanical composition of soils and their practical importance; chapter 4 deals with the inorganic compounds of soils - which play an important role in the formation of the texture of soils; in chapter 5 the organic matter of soils is discussed. Chapter 6 gives an account on the physical-chemical properties of soils; chapter 7 deals with the structure of soils while chapter 8 reviews the movement of water in soils.

Chapter 9 contains information on the air-movement, chapter 10 on the heat-balance of soils. In chapter 11 a detailed discussion may be found on soil biology. Chapter 12 - the integration of former chapters - deals in detail with the factors and processes of soil formation. Chapter 13 is devoted to soil classification systems of the World and of GFR, chapter 14 and 15 to typology, and chapter 16 to the problems of soil cartography. Chapter 17 gives a detailed picture on soil conservation, while chapter 18 is entirely devoted to the dynamics of substances of the earth crust. The last chapters - 19 and 20 - give information on soil evaluation and methods of soil survey.

The book gives up-to-date and reliable information concerning many aspects of contemporary soil science, with particular regard to their geological and mineralogical background and it will certainly be useful for a wide circle of soil scientists in the GFR and abroad.

Price: DM 190, - bound.

Orders to: DLG Verlag, D-6000 Frankfurt (M)-1, Rüterstrasse 13, FRG.

I. Szabolcs, Budapest, Hungary

Genesis and Solution Chemistry of Acid Sulfate Soils in Thailand, by N. van Breemen (1976). Agric. Res. Rep. (Versl. landbouwk. Onderz.) 848. (xvi) + 263 p., 75 figures, 18 tables, 254 refs., 3 App. ISBN 90-220-0600-X. English and Dutch Summaries. Also: Doctoral thesis Wageningen.

To study short-term and long-term chemical processes in periodically flooded acid sulfate soils in the Bangkok Plain and in various smaller coastal plains along the Gulf of Thailand, 16 acid sulfate soils and one non-acid marine soil were examined for distribution of iron-sulfur compounds, elemental composition of soil and clay, clay mineralogy, redox potential, pH, and ionic activities in the soil solution. The application of thermodynamics to mineral-water interactions enlightened various aspects of sulfate reduction, weathering and transformation of minerals (with emphasis on iron oxides, jarosite and clay minerals), and acid production and pH buffering reaction in the soils. (Author's abstract).

Although this study was not designed to answer practical questions, some practical features did emerge, as discussed in the epilogue. Slow oxidation in moist conditions is advocated as the most dependable method for identification of potential acid sulfate soils. The two main methods of reclamation, with and without oxidation and leaching, are discussed and possible uses listed (mangrove forest, salt production, shrimp ponds and lowland rice cultivation). The toxins aluminium, ferrous iron and sulfide are discussed in relation to reduction processes in young and old acid sulfate soils. Reasons and possible remedies are given for the release of sulfuric acid in the surface water above reduced acid sulfate soils, which may endanger rice and pisciculture dependent upon floodwater.

This is a thorough study with several new findings, lucidly presented. The volume includes appendices with extensive basic data for those interested in further study and calculations.

Orders to: Centre for Agricultural Publishing and Documentation, Pudoc, P.O. Box 4, Wageningen, The Netherlands.

Robert Brinkman, Wageningen, The Netherlands.

Géographie des Sols, par Jean Boulaïne, Presses Universitaires de France, 1975, 199 p.

Le thème de l'ouvrage est la connaissance des sols et celle de leur répartition. Il traite de la pédologie comme une discipline autonome possédant ses concepts, son langage et sa méthode propres.

Dans une première partie, l'auteur reprend d'abord les définitions du sol et des concepts qui permettent son étude: horizon, pédon, profil, héritage, transformation, néosynthèse, transferts. Puis l'accent est mis sur la nature des unités géographiques, séries, séquences, combinaisons qui, seules, permettent de décrire les sols quant à leur organisation en surface. Une rapide revue des méthodes, des techniques et des résultats de la cartographie y est annexée.

La deuxième partie met en relief le jeu des facteurs qui différencient les sols les uns des autres: l'héritage du matériau, le jeu des fluides et des variations d'énergie, la sommation des phénomènes élémentaires en fonction du temps, les implications du relief et du modelé et l'intervention de la vie: micro-organismes, animaux, végétaux, et actions de l'homme.

Dans la troisième partie, les grandes zones de sols du globe sont décrites à grands traits. Successivement, les zones polaires désertiques, l'héritage des derniers épisodes périglaciaires, les zones tempérées ou continentales de transition, le domaine méditerranéen si original, les déserts subtropicaux et leurs marges, les zones humides et chaudes subtropicales, intertropicales et équatoriales sont passées en revue, ainsi que quelques ensembles de sols relativement ubiquistes tels que les andosols, les vertisols, et les sols alluviaux.

D'un langage précis, d'un style riche et d'une présentation claire, cet ouvrage est hautement recommandé à tous ceux qui s'intéressent à la géographie des sols et à la pédologie.

Commandes: Presses Universitaires de France, 108 boulevard Saint-Germain, 75279 Paris Cedex 06, France.

Impact of Fertilizer Shortage: Focus on Asia. Asian Productivity Org. 1975. 372 p.

Proceedings of a Symposium organized by the Asian Productivity Organization in cooperation with the Ministry of Agriculture and Forestry of Japan, held in Tokyo, 26 November-2 December 1974.

The Symposium discussed (i) recent trends of world fertilizer market; (ii) impact of the energy crisis and other factors on the fertilizer industry of Asia; (iii) impact of the supply shortage and high prices on fertilizer distribution and consumption; (iv) possible effects of fertilizer shortage on food grain production; and (v) external trade problems for fertilizer and food grains.

Orders to: The Secretariat, Asian Productivity Organization, Aoyama Daiichi Mansions, 4-14 Akasaka, 8-Chome, Minato-ku, Tokyo 107, Japan.

25 Years of the Research Institute for Soil Science and Agricultural Chemistry of the Hungarian Academy of Sciences, Budapest, 1974, 119 p.

This book commemorates the 25th Anniversary of the Research Institute for Soil Science and Agricultural Chemistry of the Hungarian Academy of Sciences, celebrated in 1974. The book reviews the history and achievements of the Research Institute, with special reference to the work carried out in its different departments: Soil Science, Sandy Soils, Salt Affected Soils, Fertilization, Soil Biochemistry, Soil Microbiology, Isotope Laboratory, and Fine Structure Analytical Laboratory.

Orders to: Research Institute for Soil Science and Agricultural Chemistry of the Hungarian Academy of Sciences, Budapest, II., Herman O. út 15, Hungary.

Physical and Chemical Characteristics of Aquatic Humus, by Egil T. Gjessing, Research Scientists, Norwegian Institute of Water Research, Oslo, Norway. 1976. 120 p. ISBN 0-250-40115-0.

Soil humus research is an old science, but the problem of aquatic humus is relatively recent. Based on work with colour in surface water at the Norwegian Institute for Water Research, this volume organizes the useful knowledge on humus in water acquired during 10 years of extensive experimental and literature research. It focuses on the water-soluble humus fraction and the numerical aspects that emphasize the potential role of humus in water research. It is illustrated with 36 figures and 23 tables.

Soil chemists will find this book a useful supplement to existing soil literature, as many properties and characteristics of humus in water can be applied to humus in soil. Water chemists will be interested in the quantitative and qualitative analytical methods and information on changes of properties in nature and changes due to artificial alterations, and association between humus and metals. Methods for bleaching and removal from water and potential problems with humus in waterworks will be of value to waterworks managers and staff, while environmental educators will be interested in the information regarding formation and distribution of humus, natural changes, chemical composition and potential importance for water organisms.

Price: L. 8.65 - \$ 15.95.

Orders to: John Wiley & Sons Ltd., Baffins Lane, Chichester, Sussex, England.

Andosoles de las Islas Canarias, por E. Fernandez Caldas y M.L. Tejedor Salguero, 1975. 210 p., 28 tables, 122 figures, 3 inset maps. ISBN 84-7231-208-9.

This publication gives a comprehensive study of andosols and related soils of the Islands of Tenerife, Gomera and Hierro in the Canaries. A review is made of the general characteristics of andosols including ecology, morphology, physical, chemical and mineralogical properties. Four major groups of andosols are recognized and studied in detail including profile descriptions, analytical data and colour reproduction.

This book is a welcome addition to the study of andosols as a whole and a valuable contribution to the study of soils in the Canary Islands.

Orders to: Caja General de Ahorros, Santa Cruz de Tenerife, Canary Islands.

Ecological Studies, Volume 10, Coupling of Land and Water Systems, edited by Arthur D. Hasler, Springer Verlag, 1975. 309 p. ISBN 3-540-06707-8 and 0-387-06707-8.

Proceedings of a Symposium convened by the International Association for Ecology (INTECOL) at the XVIIIth International Congress of Limnology in Leningrad, USSR. The book provides an introductory examination of bioenergetics and nutrient cycling as a framework for a better understanding of the physical and biological interactions of land and water ecosystems. It describes the major ways by which landscapes influence water bodies or water quality, and some of the feedback processes through which aquatic systems act upon the land.

Broad concepts are introduced, supported by data on a number of illustrative case studies in order to present this topic in a way which is meaningful to students and nonspecialists, as well as to experienced investigators in this field. Some of the aspects explored through case studies include: the relationship of watersheds or catchment basins to streams which carry water and nutrients to lakes; input-output budgets of watersheds feeding into man-made lakes; physical and biological ways by which the overall condition of communities on land influence the runoff of water and sediments from hillsides; modification of certain land and water interactions by fish behaviour; and succession and physiologic ecology of border zones which share aspects of both land and water systems.

Each section clearly illustrates how the ecosystem upstream from any particular point has a variety of chemical and biological couplings that constrain use of the water. The case for improved conservation of landscapes for the sake of water and its integrity is extensively documented.

Orders to: Springer-Verlag, Berlin - Heidelberg - New York or your bookseller.

International Maps and Atlases in Print. Edited by Kenneth L. Winch and published by Bowker Publishing Company Ltd. London and New York. 1974. 864 p., 21.5 x 30.5 cm., ISBN 0-8593-5000-2.

This is perhaps the first single publication to describe in full the currently existing and available world mapping editions. It incorporates the result of extensive research, experience and a world-wide collaboration of official national institutions and commercial agencies.

The subject includes nearly 400 index diagrams of map series and atlases, the stage of publication developments and a considerable amount of bibliographical details. Over 8000 detailed map entries are standardized in logical ad organic sequence, which is essential when consulting such complex subject matter. Particularly useful is the list of abbreviations and the geographical index of countries, regions and islands. This information assists the user in finding any particular area and the different maps available with indication of sources. Another distinct advantage is that entries are listed according to the Universal Decimal Classification System.

Actual use of the Catalogue will demonstrate its value, and it is hoped that the editor will be constantly informed by users of additional data as a guide for the preparation of future editions.

Price: L. 20.00 (linen hardcover).

Orders to: Bowker Publishing Co. Ltd., P.O. Box 5, Epping, Essex CM16 4BU, England.

Reclamation Review, published regularly by the Canadian Land Reclamation Association, four issues a year (target).

The features included are new items, notice of forthcoming events, requests for information, short abstracts of new publications, but also it is intended to publish original articles, and to include such additional details of new equipment, people on the move, and indeed any items that are of interest to reclamationists world-wide and which are brought to the notice of the Editor.

Contributions and orders should be sent to the Editor: Dr. J.V. Thirgood - Canadian Land Reclamation Association, Faculty of Forestry, University of British Columbia - Vancouver, B.C. - Canada.

Combustion of Peat. Proceedings of the Symposium of IPS Commission II, Kuopio, Finland, 23-26 September 1975. 222 p.

The Proceedings include 17 papers presented at the Symposium.

Price: US \$ 10 + postage.

Orders to: International Peat Society, Bulevardi 31, 00180 Helsinki 18, Finland.

Classification of Peat and Peatlands. Proceedings of the IPS Symposium in Glasgow, September, 1973, new edition.

The Proceedings contain the copies of the 18 papers presented at the Glasgow Symposium.

Price: Fmk 40. - or US \$ 10 + postage.

Orders to: International Peat Society, Bulevardi 31, 00180 Helsinki 18, Finland.

Atlas Ecologique des Sols du Monde, par Ph. Duchaufour avec la collaboration de Pierre Faivre et Michel Gury. Ouvrage publié avec le concours du Centre National de la Recherche Scientifique. Masson, 1976. 192 p., 20 planches hors texte en couleurs, 16 x 24, ISBN 2-225-43593-6.

Cet ouvrage est d'abord un complément du "Précis de pédologie" (édition 1970), publié par l'auteur chez le même éditeur. L'orientation de ce premier ouvrage était déjà écologique, et c'est sur cette base qu'une classification des sols était proposée. Mais l'étude des sols présentés dans ce Précis reste surtout théorique et ne présente qu'un petit nombre d'exemples concrets de types de sols. L'Atlas de sols vise à compléter le précis, en présentant une gamme aussi complète de profils pédologiques (plus de cent), choisis parmi les plus caractéristiques, dans des milieux aussi variés que possible, et sous tous les types de climat (froid, tempéré, tropical, steppique, etc.). Chaque fiche descriptive et analytique est illustrée par une photographie en couleur du profil étudié.

Mais cet ouvrage poursuit un autre but: il vise une étude des sols, qui met davantage l'accent sur l'évolution écologique rencontre du monde vivant et du milieu minéral, faisant intervenir l'ensemble des facteurs écologiques, climat, végétation, matériau. L'auteur place chaque profil dans un des douze tableaux écologiques d'ensemble, présentés et commentés dans chaque chapitre: un système de flèches indique les possibilités de passage d'un type de sol à l'autre. Dans chaque fiche de sol, un commentaire général rappelle ce processus de base dans son cadre écologique. La corrélation établie par l'auteur entre les unités qu'il distingue et celles de la Carte Mondiale des Sols (FAO/Unesco) et de la Soil Taxonomy U.S.D.A. facilitent la relation avec d'autres systèmes de classification.

Prix: 90 FF (cartonné toile).

Commandes: Librairie Club du Livre Spécialisé, 12, Rue de l'Eperon, 75278 Paris Cedex 06, France.

Agricultural Development: Soil, Food, People, Work, by Charles E. Kellogg, SSSA, 1975. 233 + xii p., 85 figures. ISBN 0-89118-763-4.

This book gathers the recollections, facts and philosophies of a man who has seen much of the world, studied its soils and worked with those who manage the soil to produce crops. It describes farming as it functions under different agricultural systems, from the most primitive to the most complex, in relation to the inherent productivity of the soil. The author is cautiously optimistic about the world's food production potential. He stresses the principles of interaction between fertilizers, water control, new varieties, pesticides, multiple cropping and so on, used in combination and adapted to the local kinds of soil. While problems differ from place to place and at different times, when limitations are properly identified, problems of food and agricultural development can be solved by hard work of many skilled people, not simply the cultivators alone. Management practices from developed areas can be applied in newly developed regions with similar soils and climates, as local education and existing infrastructure permit.

The book covers the wide range of soil use and management placed in a general framework of world agricultural development. It offers a view of agricultural problems and opportunities based on a lifetime study of the soils that support us.

Price: \$ 8.75 (advance payment and 50 c postage required on orders outside the USA).

Orders to: Soil Science Society of America, 677 South Segoe Road, Madison, WI 53711, USA.

Applications de la Télédétection à l'Etude de la Biosphère, par Colette M. Girard et Michel C. Girard, Masson, 1975. 186 p. ISBN 2-225-41-734-2.

Au cours des dernières années les progrès de la télédétection se sont développés à un rythme tellement rapide qu'il a fallu élaborer de nouvelles méthodes d'interprétation et en répandre la

connaissance. Cet ouvrage répond à cette nécessité: il traite des développements de la télédétection, du type des documents restitués, des possibilités d'automatisation de l'exploitation et de l'expression graphique, de l'apport de l'informatique, de l'interprétation pratique de données dans les domaines de la végétation, de la pédologie, de l'agronomie et de l'influence humaine. Ces données de base sont illustrées par des exemples concrets pris dans des milieux où coexistent plusieurs facteurs et dont l'interprétation des documents de télédétection est souvent très complexe. Toutefois, si l'on arrive à décrypter ce type de documents il est d'autant plus facile d'interpréter ceux où seul un nombre restreint de facteurs interviennent. Les milieux étudiés correspondent à la zone tempérée où l'action humaine est importante. Une bibliographie à jour jusqu'aux premiers mois de 1974 complète cet ouvrage très documenté, clair et précis qui, conçu comme un manuel destiné à l'enseignement, servira également de document de référence à tous ceux qui s'intéressent à l'interprétation des ressources naturelles par télédétection.

Commandes: Masson et Cie. 120 Bd. St. Germain, Paris VI France.

World Geographical Map, scale 1:2 500 000, in 262 sheets, 12 colours, delivered unfolded in uniform size 80 x 100 cm (31.50 x 39.37 inches).

This new general geographical map is the result of combined cartographic efforts of Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, Poland, Romania and the Soviet Union. It comprises the surface of the globe – including seas and oceans – covering for the first time the entire world surface in the metric system of uniform scale and by means of uniform conventional signs.

The naming of sheets, explanation of conventional signs etc. are in Russian and English. Within the maps only Latin lettering is used. All map names in their official form in Latin characters. For states which do not use the Roman script the internationally accepted transliteration with Latin letters is used.

The sheet-system is based on the layout of the International Map of the World (IMW) 1:1 000 000. Denomination in letters and ciphers of the 262 sheets is based on the same layout.

Price: US \$ 0.85-2.80 per sheet according to the content.

Orders to: Cartographia, POB. 132, Budapest, Hungary.

Land and Land Appraisal, by Robert Orr Whyte. W. Junk B.V., The Hague, 1976, 370 p. ISBN: 90-6193-546-6.

This 370 page book essentially comprises extracts from a comprehensive range of publications, proceedings and articles concerned with land inventory and assessment particularly in S.E. Asia. The arrangement and selection of the material leaves to be desired, as exemplified by the repeated treatment of potential assessment under physical component headings and the omission of any reference to water quality under the section on water resources. While reference is made to many techniques for inventorizing land, the author does not present his own opinions on the relative advantages and disadvantages of the methodologies quoted. In certain cases the author's summary does not fully reflect the substance of the methodology being reviewed, e.g. with regard to the FAO Framework for Land Evaluation. In general the reader is left with a feeling of loss by the wealth of material quoted, however, this does not deter from the value of the publication as a bibliographic source of references on land in S.E. Asia.

Orders to: Dr. W. Junk B.V., Publishers, The Hague, The Netherlands.

G. Higgins, Rome, Italy.

The Distribution and Diversity of Soil Fauna, by John A. Wallwork, 355 p., Academic Press, London, 1976. ISBN: 0-12-733350-9.

The objectives of this book are two-fold. Firstly, to collate the vast amount of information on the ecology of soil animals. Secondly, to provide an original synthesis of this information according to general principles governing the patterns of distribution and diversity of soil fauna. These patterns, traced through a series of habitats, ranging from grasslands to hot and cold deserts, lead the author to develop a synthesis of the factors which govern distribution and diversity of Soil animals.

This book will serve as an introduction to the subject for students unfamiliar with soil fauna. At the same time, it provides enough detailed information to allow postgraduates, teachers and research workers to use it as a source of reference: it will be particularly useful to research institutes concerned with ecological studies in grassland, agricultural land and forests.

Price: L. 11.00 - \$ 27.25.

Orders to: Academic Press Inc., (London) Ltd., 24-28 Oval Road, London NW1 7DX, England.

Endomycorrhizas, by F.E. Sanders, Barbara Mosse and P.B. Tinker, Academic Press, London, 1976. ISBN: 0-12-618350-3.

This book reports the proceedings of a symposium held at the University of Leeds, England in July 1974, at which the problem and scope of present work on endomycorrhizas were discussed. It was the first international meeting with particular emphasis on vesicular-arbuscular mycorrhizas, a subject that is now attracting much interest because of its implications for plant nutrition. The study of VA mycorrhizas impinges on many other disciplines and has relevance for plant nutritionists, soil microbiologists, plant pathologists, fungal and plant physiologists, fungal taxonomists, soil scientists and those interested in the study of symbiotic associations.

Apart from papers on VA mycorrhizas, the book contains reviews of orchid and ericaceous mycorrhizas, on mechanisms of fungal symbiosis and on phosphorus in plants and soils. It will be a useful practical guide for those starting work with mycorrhizas and equally valuable, as a full account of the subject, for those wishing to extend their present knowledge.

Price: L. 9.60 - \$ 23.75.

Orders to: Academic Press Inc., (London), Ltd. 24-28 Oval Road, London NW1 7DX, England.

The Development and Function of Roots, Third Cabot Symposium. Edited by J.G. Torrey and D.T. Clarkson, 1975, 618 pages.

This book reviews recent developments in root investigations. Part I of the book is concerned with the organization and structure of roots. In this part the anatomy and cytology of the root receive considerable attention. Attention is also paid to the development and differentiation of root tissues and roots.

In the second part of the book some physiological aspects of the root function are presented. Special attention is drawn to the transport of auxins, water and nutrients through roots. The authors discuss mechanisms of uptake and subsequent transport of water and nutrients resp. by the root and within the plant.

Finally, the last part of the book gives some recent information about the root in relation to the soil microflora. Specially, the development and function of root-nodules and mycorrhiza are discussed.

Price: L. 12.50 - \$ 32.25.

Orders to: Academic Press, Inc., Fifth Avenue, New York, 10003, USA, or Academic Press, Inc., 24-28 Oval Road, London NW1 7DX, England.

W.G. Keltjens, Wageningen, The Netherlands.

Soil Components, Volume 1, Organic Components. Edited by John E. Gieseking. Springer-Verlag, Berlin, Heidelberg and New York, 1975. 534 p., 185 figs.

In 8 monographs by 12 experts, a comprehensive survey is given of the research on the organic components in the soil. The most lengthy review is on the chemical and physical composition of the humic substances. Others treat the saccharides, the organic nitrogen, phosphorus and sulphur substances, one is on fats, waxes and resins in the soil, and the micromorphology of soil organic matter is discussed in detail also. The last monograph is a translated Russian contribution on humus of virgin and cultivated soils.

This book contains a wealth of knowledge on the soil organic matter and its fate during the biochemical processes, but at the same time points to the considerable lack of knowledge in many aspects. It is, therefore, an excellent guide for any present or future worker in this field. The book cannot claim to be quite up to date since few references are post 1970. As the price promises, the get-up is luxurious.

Price: DM 178,40.

International Soil Museum, Wageningen, The Netherlands.

Soil Components, Volume 2, Inorganic Components. Edited by John E. Gieseking. Springer-Verlag, Berlin, Heidelberg and New York, 1975. 684 p., 212 figs.

In this volume, 21 specialists in 13 monographs extensively discuss the various mineral groups commonly occurring in soils (including the heavy minerals). One monograph is on bioliths, one on soil-water interaction and two chapters deal with analytical techniques (thermal analysis and infrared spectroscopy).

Of the minerals, all important aspects are dealt with systematically, i.e. genesis, classification, structure, crystal chemistry, identification, etc. The book can be considered as a new major reference work in the field of soil mineralogy. The occurrence of some gaps and overlaps is inherent in this way of editing but cannot be considered as a drawback.

Like volume 1, this volume is not up to date either, some chapters contain references no more recent than 1967.

Price: DM 183,30.

International Soil Museum, Wageningen, The Netherlands.

NEWS OF THE ISSS SECRETARIAT
NOUVELLES DU SECRÉTARIAT DE L'AISS
MITTEILUNGEN DES IBG-SEKRETARIATS

The Secretary General honoured



On 20 April 1976 the Rijksuniversiteit, Gent, Belgium, conferred the degree of Doctor honoris causa in Agricultural Sciences to Dr. R. Dudal, Secretary General of the ISSS. The citation made mention of his contribution to international cooperation in the field of soil science and of its applications to development. Dr. Dudal wishes to share the honour bestowed on him with the many colleagues in different countries with whom he has the privilege to closely cooperate.

Le Secrétaire général à l'honneur

Le 20 avril 1976 la Rijksuniversiteit, Gent, Belgique, a conféré au Dr. R. Dudal, Secrétaire général de l'AISS, le grade de Doctor honoris causa en Sciences agricoles. La citation fit mention de sa contribution à la coopération internationale dans le domaine de la science du sol et de ses applications au développement. Dr. Dudal tient à partager l'honneur qui lui a été fait avec ses nombreux collègues, dans différents pays, avec lesquels il a le privilège de collaborer.

Ehrung für den Generalsekretär

Am 20. April 1976 wurde Dr. R. Dudal, Generalsekretär der IBG, die Ehrendoktorwürde in Agrarwissenschaften der Rijksuniversiteit, Gent, Belgien, verliehen. Bei der Verleihung wurden seine Verdienste um die internationale Zusammenarbeit auf dem Gebiet der Bodenkunde und ihrer Anwendung im Entwicklungsbereich erwähnt. Es ist Dr. Dudals Wunsch, die ihm zuteil gewordene Ehre mit den vielen Kollegen in verschiedenen Ländern zu teilen, deren enge Zusammenarbeit er genießt.

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Membership of the International Society of Soil Science is open to all persons and institutions engaged in the study and the application of soil science. Membership applications can be addressed to the National Societies or directly to the Secretariat General. The yearly subscription, due each January, is 3 US dollars, or equivalent in any other convertible currency. *In order to reduce bank charges it is recommended that subscriptions be remitted, whenever possible, through medium of the National Societies.* Individual payments can be made by cheque, by international money order or by direct transfer into the ISSS bank account. Unesco coupons are also accepted.

The low subscription fee aims at making the Society accessible to all those interested in participating in its activities. Voluntary contributions by sponsors of the Society will be highly appreciated and acknowledged in the Bulletin.

**Account: R. Dudal, International Society of Soil Science, 95214/01
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Adhésion à l'AISS

Toutes personnes et institutions engagées dans l'étude et l'application de la science du sol peuvent adhérer à l'Association internationale de la science du sol. Les demandes d'inscription peuvent être faites par l'intermédiaire des associations nationales ou adressées directement au Secrétariat général. La souscription annuelle, due au mois de janvier, est de 3 dollars E.U. ou son équivalent dans une autre monnaie convertible. En vue de réduire les frais de banque il est recommandé, dans la mesure du possible, de faire parvenir les souscriptions par l'intermédiaire des associations nationales. Les versements individuels peuvent être faits au moyen d'un chèque, d'un mandat international ou par transfert direct au compte en banque de l'Association. Des coupons Unesco peuvent également être utilisés.

Le montant peu élevé de la cotisation vise à rendre l'Association accessible à tous ceux qui sont intéressés à prendre part à ses activités. Des contributions volontaires, qui permettraient de promouvoir l'Association, seront les bienvenues et mention en sera faite dans le Bulletin.

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Banca Commerciale Italiana, Branche FAO, Rome, Italie**

IBG-Mitgliedschaft

Die Internationale Bodenkundliche Gesellschaft heisst Personen und Institute, die auf dem Gebiet der Forschung und Anwendung der Bodenkunde arbeiten, als Mitglieder willkommen. Aufnahmeanträge können direkt an das Generalsekretariat der Gesellschaft geschickt oder über die nationalen Bodenkundlichen Gesellschaften an dieses geleitet werden. Der jährliche Mitgliedsbeitrag, der jeweils im Januar zu entrichten ist, beträgt 3 US-Dollar oder den Gegenwert in einer konvertierbaren Währung. Um die Bankkosten niedrig zu halten, sollten Beiträge wo möglich durch die nationalen Gesellschaften gezahlt werden. Einzelzahlungen können durch Scheck, internationale Postanweisungen oder direkt auf das Konto der Gesellschaft erfolgen. Unesco-Kupons werden auch akzeptiert.

Durch den niedrigen Mitgliedsbeitrag wird allen Interessenten die Möglichkeit gegeben, an der Tätigkeit der Gesellschaft teilzunehmen. Freiwillige Beiträge zur Unterstützung der Gesellschaft sind herzlich willkommen und werden in den Mitteilungsblättern erwähnt.

**Konto: R. Dudal, International Society of Soil Science, 95214/01
Banca Commerciale Italiana, FAO Branch, Rom, Italien**