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INTERNATIONAL SOCIETY OF SOIL SCIENCE
ASSOCIATION INTERNATIONALE DE LA SCIENCE DU SOL
INTERNATIONALE BODENKUNDLICHE GESELLSCHAFT

(Founded/fondée/gegründet 19-05-1924, 6600 members, residents of/membres, résidents de/Mitglieder, wohnhaft in 132 countries/pays/Ländern)

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Commissions/Commissions/Kommissionen – Chairmen/Présidents/Vorsitzende

I Soil Physics/Physique du sol/Bodenphysik
Dr. S. S. Prihar, Dept. of Soils, Punjab Agric. University, Ludhiana 141004, Punjab, India

II Soil Chemistry/Chimie du sol/Bodencode
Prof. Dr. M. H. B. Hayes, Dept. of Chemistry, Univ. of Birmingham, P.O. Box 363, Birmingham B15-2TT, England

III Soil Biology/Biologie du sol/Bodenbiologie
Prof. P. B. Tinker, Rothamsted Exp. Station, Harpenden, Herts., AL5-2JQ, England

IV Soil Fertility and Plant Nutrition/Fertilité du sol et nutrition des plantes/Bodenfruchtbarkeit und Pflanzenernährung
Dr. N. S. Randhawa, Indian Council of Agric. Research, Krishi Bhavan, New Delhi 110001, India

V Soil Genesis, Classification and Cartography/Genèse du sol, classification et cartographie/Bodengenetik, Klassifikation und Kartographie
Prof. Dr. R. W. Arnold, Soil Conservation Service, U.S. Dept. of Agriculture, P.O. Box 2890, Washington, D.C. 20013, USA.

VI Soil Technology/Technologie du sol/Bodentechnologie
Dr. G. Várályay, Research Inst. of Soil Science and Agric. Chemistry, Herman Ottó út 15, Budapest 11, Hungary

VII Soil Mineralogy/Minéralogie du sol/Bodenmineralogie
Dr. J. B. Dixon, Soil and Crop Science Dept., Texas A & M Univ., College Station TX 77843, USA
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1. Congress Tours

The schematic map given in the previous issue of our bulletin is completed by a table giving the schedule of the tours before and after the Congress. Furthermore, a post-congress tour to Scandinavian countries has been recently offered, therefore the tour routes are given once more in strongly simplified form (page 10). Daytours (J, K, L, M) were not included in order to make the map more clearly legible.

2. Congress sessions

The following events will be organized:

2.1 Plenary sessions (invited speakers)
- Considered topics (as proposed by Commissions):
  - Soil water and plant productivity (I)
  - Pollution of soils in ecosystems (II)
  - Demand and control on organisms in soils (III)
  - The influence of soil on the world food market (IV)
  - Boreal regions (V)
  - Impact of farming systems on soil erosion (VI)
  - Mineralogy of surface-mined lands (VII)

2.2 Symposia (invited speakers)
- Considered topics (as proposed by Commissions):
  - Optimizing physical properties of rooting zone (I)
  - Soil acidity (II)
  - Functional relationships between soil fauna, microflora and organic matter (III)
  - Nutrient dynamics in the rhizosphere (IV)
  - Soil monitoring; land/soil capability estimates (V)
  - Soil structure in fully mechanized cropping systems (VI/VI)
  - New developments in soil mineralogy (VII)
  - Movement and accumulation of salts in soils (A)
  - Micromorphology: Techniques and applications-micromorphology and mineral weathering (B/VII)
  - Soil erosion – processes, prediction, protection measures (C/VI)
  - Nitrate pollution of groundwater (Sponsor)
  - Potassium availability in relation to soil minerals (Sponsor)
  - Mineralogical changes in specific environments (VII/V)

Joint symposia are under consideration from Commissions: I + II, II + VII, III + IV (+ II), IV + III, V + II (+ VII), III + IV, B + VII, II + IV, IV + I, VI + I + II.

2.3 Technical sessions of Commissions and Subcommissions: Open to voluntary contributions and further arrangements by the Commission chairmen.

2.4 Meetings of Working Groups: Details will be worked out by the chairmen.

2.5 Poster sessions: Open to voluntary contributions, see 2.3.

3. Registration procedure

Preliminary registration by 'letter of intent' is kindly requested in order to provide information to the organizing committee. Please fill in the form of your preferred language attached to this Bulletin and keep a second one for your files. Mail it to the address given on it, before November 1, 1984.

Final registration will be performed on a special form that will be attached to bulletin 1/85. Invitations to submit papers will be included there.
NOTICE OF INTENT
(please type or print in block letters)

Title and Name ........................................................................................................
Address ......................................................................................................................
.................................................................................................................................

☐ I expect to attend the XIII Congress of ISSS, August 13–20, 1986, Hamburg

☐ I expect to be accompanied by ____ persons

My preferences for excursions are: 1st  2nd  3rd
Pre-Congress-Excursion ☐ ☐ ☐
Post-Congress-Excursion ☐ ☐ ☐

My preferences for local excursions are:
one-day pre congress ☐ ☐ ☐
one day, during congress ☐ ☐ ☐

Note: Time Table of tour see page 9 of this issue

☐ I expect to submit a paper for Commission .........................................................
Proposed title ...........................................................................................................
.................................................................................................................................
If my paper is accepted for presentation I would prefer:
☐ to make a regular type oral presentation (15 minutes)
☐ to present my material at a poster session (presence of author 2–3 h)

Note: Invitation to submit papers as well as official registration forms will be included in ISSS-Bulletin 1, 85.

My accommodation preference will probably be:

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<th>Category</th>
<th>single room</th>
<th>double room</th>
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<td>Class D</td>
<td>☐ DM 40–60</td>
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</tbody>
</table>

Date... Signature .................................................................................................

Please return form until November 1st 1984 to:
XIII CONGRÈS DE L’AISS, 13–29 AOUT 1986 HAMBOURG, RFA
‘Les besoins en sols, exigences croissantes en surfaces et en quantités’.

1. Excursions
La carte schématique des itinéraires des excursions, parue au Bulletin no. 64 est complétée par le tableau ci-dessus montrant le programme des excursions avant et après le Congrès. Une autre excursion après-congrès conduisant aux pays scandinaves a été ajoutée au programme. Toutes les excursions sont maintenant indiquées sur la carte, sauf celles d’une journée de durée (I, K, L, M) seulement.

2. Séances de congrès
2.1 Séances plénières (orateurs invités)
- Thèmes prévus (avec Commission proposante):
  - L’eau dans le sol et la productivité des plantes (I)
  - La pollution des sols dans les écosystèmes (II)
  - Les besoins des organismes dans le sol et leur régulation (III)
  - L’influence du sol sur le marché mondial des produits alimentaires (IV)
  - Les régions boréales (V)
  - L’influence des pratiques culturelles sur l’érosion des sols
  - La minéralogie des surfaces minées à ciel ouvert.

2.2 Symposia
- Thèmes prévus (avec Commissions proposantes):
  - L’optimisation des conditions physiques dans la zone racinaire (I)
  - L’acidité du sol (II)
  - Relations fonctionnelles entre la faune du sol, la microflore et la matière organique
  - La dynamique des éléments nutritifs dans le rhizosphère (IV)
  - L’inventaire des sols et l’évaluation de leur aptitude culturelle (V)
  - La structure du sol sous culture mécanisée (VI/I)
  - Développements nouveaux dans la minéralogie des sols (VII)
  - Transport et accumulation des sels dans les sols (A)
  - Techniques micromorphologiques et leur application/micromorphologie et altération des minéraux (B/VII)
  - Erosion des sols – processus, prévisions, mesures de protection (C/VI)
  - Pollution en nitrates des eaux souterraines (Sponsor)
  - Disponibilité de potasse en relation avec la composition minéralogique (Sponsor)
  - Transformations des minéraux sous conditions climatologiques spécifiques (VII/V)

Des symposia conjoints des commissions suivantes ont été planifiés: I + II, II + VII, III + IV (+ II), IV + III, V + II (+ VII), III + IV, B + VII, II + IV, IV + I, VI + I + II.

2.3 Séances des Commissions et Sous-commissions. Elles sont ouvertes aux contributions volontaires et des arrangements par les présidents des commissions.

2.4 Séances des Groupes de Travail. Détails à élaborer par les président concernés.

2.5 Démonstration de posters. Contributions volontaires. Procédures comme sous 2.3.

3. Procédure d’enregistrement

L’enregistrement final sera fait par une fiche spéciale qui paraîtra au Bulletin 1985/1. L’invitation de soumettre des contributions y paraîtra également.
ANNONCE PROVISOIRE
(Prière de remplir à la machine ou en majuscules d'imprimerie)

Titre et nom ........................................................................................................................................
Adresse.............................................................................................................................................

☐ J'ai l'intention de participer au XIII Congrès, 13-20 août 1986, Hambourg
☐ Je serai accompagné par _____ personnes

J'ai l'intention de joindre les excursions suivantes:
(Ordre selon préférence) 1. 2. 3.
Excursion Pré-Congrès ☐ ☐ ☐
Excursion Post-Congrès ☐ ☐ ☐

Je préférerais des excursions locales courtes:
1 jour avant congrès ☐ ☐ ☐
1 jour pendant de le congrès ☐ ☐ ☐

Remarque: Termes des excursions voyez page 9 de cette édition
☐ J'attends de donner une conférence devant la commission ______________________
Comme titre de l'exposé je propose...........................................................

En cas où mon exposé sera accepté, je préférerais
☐ une conférence orale (15 minutes)
☐ une poster-démonstration (Présence d’auteur 2-3 h)

Remarque: Les fiches d'inscription officielles in que l'invitation pour la remise des exposés seront au bulletin (I. 85).

Comme hébergement hotelier j’opterai probablement pour:

<table>
<thead>
<tr>
<th>Catégorie</th>
<th>Chambre simple</th>
<th>Chambre double</th>
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</tbody>
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*les prix sont susceptibles d'être modifiés

Date... Signature ..................................................

Veuillez retourner cette annonce jusqu'à 1ère Novembre 1984 à:
(veuillez garder une copie pour vous-même)
XIII. BODENKUNDLICHES CONGRESS 13.-20. AUG. 1986 HAMBURG
‘Böden unter stiegender Vielfalt und Intensität der Nutzung’

1. Excursionen
Die im vorigen Heft der Mitteilungen abgedruckte Karte der Excursionen wird durch die Nachstehende Tabelle ergänzt, aus der die zeitliche Anordnung der Touren vor und nach dem Kongress ersichtlich ist.
Da ausserdem noch eine Excursion nach Skandinavien angeboten wird, sind die Fahrtrouten in stark vereinfachter Form nocheinmal als Karte gebracht. Die Tagestouren (I, K, L, M) sind der Übersichtlichkeit halber nicht mit dargestellt.

2. Congresssitzungen
2.1 Plenarsitzungen (eingeladene Sprecher).
- Bodenwasser und Produktivität der Pflanzen (I)
- Belastung der Böden in Ökosystemen (II)
- Anforderungen der Organismen im Boden und deren Regulierung (III)
- Der Einfluss des Bodens auf den Weltmarkt für Nahrungsmittel (IV)
- Boreale Regionen (V)
- Der Vorschub der Erosion durch landwirtschaftliche Massnahmen (VI)
- Mineralogie von Tagebauraumflächen (VII)

2.2 Symposien (eingeladene Sprecher).
- Optimierung der physikalischen Bedingungen in der Wurzelzone (I)
- Bodenazidität (II)
- Funktionelle Beziehungen zwischen Bodenfaune, Microflora und organischer Substanz (III)
- Nährstoffdynamik in der Rhizosphäre (IV)
- Erfassung und Darstellung des Bodennutzungspotentials (V)
- Bodengefüge in vollmechanisierter Feldwirtschaft (VI/I)
- Neue Entwicklungen in der Bodenmineralogie (VII)
- Verlagerung und Akkumulation von Salzen in Böden (A)
- Mikromorphologische Techniken und ihre Anwendung/Mikromorphologie und Mineralverwitterung (B/VII)
- Bodenerosion – Prozesse, Vorhersage, Schutzmaßnahmen (C/VI)
- Nitratbelastung des Grundwassers (Sponsor)
- Kalium-Verfügbarkeit in Relation zur Mineralzusammensetzung (Sponsor)
- Mineralumwandlungen unter bestimmten Klimabedingungen (VII/V)

Gemeinsame Symposien folgender Kommissionen sind geplant: I + II, II + VII, III + IV (+ II), IV + III, V + II (+ VII), III + IV, B + VII, I + IV, IV + I, VI + I + II.

2.3 Sitzungen der Kommissionen und Subkommissionen: Sie sind offen für freie Beiträge und weitere Regelungen durch die Kommissionsvorsitzenden.

2.4 Sitzungen der Arbeitsgruppen: Einzelheiten hierzu werden von den betreffenden Vorsitzenden ausgearbeitet.

2.5 Poster Ausstellungen: Offen für freie Beiträge, Verfahren wie bei 2.3.

3. Das Anmeldeverfahren
Das Organisationskomitee bittet um Übersendung der ‘Vorläufigen Anmeldung’ um eine Übersicht über die Teilnahme zu erhalten. Bitte füllen Sie einen der dafür vorgesehenen Bögen im vorliegenden Heft aus. Einsendeschluss 1.11.84.
VORLÄUFIGE ANMELDUNG
(bitte mit Schreibmaschine oder in Blocksschrift ausfüllen)

Titel und Name
Adresse

☐ Ich beabsichtige am XIII. Congress teilzunehmen
☐ Ich werde vermutlich begleitet von _____ Personen

Ich beabsichtige an folgenden Exkursionen teilzunehmen
(Reihenfolge meiner Präferenz)  1.  2.  3.
Vor-Congress-Exkursionen  ☐  ☐  ☐
Nach-Congress-Exkursionen  ☐  ☐  ☐

Meine Präferenz für lokale Exkursionen:
1-tags vor-Congress  ☐  ☐  ☐
1-tags während des Congresses  ☐  ☐  ☐

Anmerkung: Zeitplan der Exkursionen auf S. 9 dieses Heftes

☐ Ich beabsichtige ein Referat vor Kommission _____ zu halten.
Als Titel des Referates schlage ich vor:

Falls mein Referat angenommen wird, bevorzuge ich
☐ mündlichen Vortrag (15 Minuten)
☐ Poster-Darstellung (Anwesenheit d. Autors 2–3 Std.)

Anmerkung: Aufforderung zum Einreichen von Referaten und die offiziellen Anmeldeformulare werden im übernächsten Bulletin (1,85) beigelegt sein.

Als Hotelunterkunft werde ich vermutlich wählen:
(Preisänderungen vorbehalten)

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Datum:  Unterschrift:

(bitte behalten Sie eine Durchschrift)
EXCURSIONS

In addition to the former informations (see bulletin no. 64) the schematic map and the time table printed opposite offer an excursion (letter ‘N’) to Denmark and the southern part of Sweden. A short description of this tour follows:

Excursion N (6 days, August 21–26) Hamburg - Copenhagen

The first five days will be spent in Denmark, the sixth day in Southern Sweden. The landscapes visited comprise younger and older moraines, sandy outwash plains, and marine sediments. The soils are used for agriculture and forestry. Fluvisols, Cambisols, Luvisols, Podzols, Podzoluvisols, and Acrisols are demonstrated. A number of scientific institutions will be visited.


National Organizing Committee/Comité Organisateur National/Nationales Organisationskomitee

General/Général/Allgemein
K. H. Hartge, Hannover, Chairman/Président/Vorsitzender
F. Führ, Jülich
D. Schroeder, Kiel
H. Zakosek, Bonn
G. Schwerdtfeger, Suderburg, Treasurer/Tresorier/Schatzmeister

Programme Commission/Commission de Programme/Programm-Kommission
H. Kuntze, Bremen
H. W. Scharpenseel, Hamburg
U. Schwertmann, München

Excursion Commission/Commission d’Excursion/Exkursions-Kommission
H. P. Blume, Kiel
B. Meyer, Göttingen
O. Wittmann, München

Congress-Secretary and Chairman local committee/Secrétaire du Congrès et Président du comité local/Kongress-Sekretär und Vorsitzender des lokalen Comitees
Dr. B. Hintze, HMC Hamburg, P. O. Box 302360, D-2000 Hamburg 36, Tel. (0)40-41234248
TIMETABLE EXCURSIONS

1986

TH 30 JUL
FR 31 JUL
SA 2 AUG
SU 3 AUG
MO 4 AUG
TU 5 AUG
WE 6 AUG
TH 7 AUG
SA 8 AUG
SU 9 AUG
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SA 30 AUG
SU 31 AUG

CONGRESS

HAMBURG

A B
1 2 3 4
J K
L M
C D E F G H N

A CROSS SECTION
GERMANY

B RHINE VALLEY
SURROUNDING AREAS
NETHERLANDS

C SWITZERLAND
AUSTRIA

D BAVARIA

E BADEN-WURTTEMBERG

F SOUTH LOWER SAXONY

G BERLIN

H NORTH LOWER SAXONY
NETHERLANDS

J ELBE ESTUARY
MARSH LAND

K PLEISTOCENE
HAMBURG

L NORTH FRISIA
MARSHES

M EAST HOLSTEIN

N DENMARK
SOUTH SWEDEN
Announcement

INTERNATIONAL SYMPOSIUM ON SOIL FERTILITY, SOIL TILTH AND POST-CLEARING LAND DEGRADATION IN THE HUMID TROPICS
Ibadan, Nigeria, 21–26 July, 1985

Structure and Venue
This symposium of Commission IV and VI of the ISSS, organized by the Soil Science Society of Nigeria, will be held at the Conference Centre of the University of Ibadan, from 21–26 July 1985. The symposium will consist of invited keynote papers, voluntary papers and poster sessions. The official language is English. Facilities for French translation exist and will be used if there is demand.

Scientific Programme
Soil fertility and plant nutrition
- chemistry and mineralogy of humid tropical soils
- organic matter management
- soil testing and fertilizer use
- nutrient dynamics
Land use, soil management and conservation
- erosion control
- land clearing methods
- post-clearing management (tillage operations; cropping systems)

Abstracts of papers should be received by 30 September 1984 and the full texts by 28 February 1985. Only accepted papers will appear in symposium proceedings.

Registration and Accommodation
The registration fee which covers participation and symposium materials is US $150.00. Suitable accommodation may be reserved by the organizers, on request. Rates are of the order of U.S. $30–60 per night.

NOTICE OF INTENT

Name and academic title ..........................................................
Address: ...........................................................................
Institution: ........................................................................

☐ I expect to attend the symposium on ‘Soil fertility, soil tilth and post-clearing land degradation in the humid tropics’, Ibadan, 21–26 July 1985.

☐ I intend to submit a paper titled: ..................................................

☐ I shall be accompanied by: .....................................................

Date: ................................................. Signature: .........................

This notice of intent and all correspondence should be sent to the L.O.C. Secretary: Dr. E. J. Udo, Department of Agronomy, University of Ibadan, Ibadan, Nigeria.
Announcement

INTERNATIONAL WORKSHOP ON LAND EVALUATION FOR LAND USE PLANNING AND CONSERVATION IN SLOPING AREAS
Enschede, the Netherlands, 17–21 December 1984

This meeting, earlier announced as Workshop on Land Evaluation for Soil Erosion Hazard Assessment, is held under the auspices of the ISSS Working Group on Land Evaluation, in cooperation with the ISSS Subcommission on Soil Conservation and Environment. It is organised by the International Institute for Aerial Survey and Earth Sciences (ITC) in Enschede, in cooperation with FAO and UNEP.

Main themes:
A) The application of the FAO Framework for Land Evaluation for land use planning and conservation in sloping areas; potentials and constraints.
B) Land degradation hazards and conservation needs as a function of land characteristics and land qualities.
C) Land evaluation for conservation to support decisions in land use planning.

Discussion Group themes:
The themes will be discussed in relation to four major land utilization types: a) rainfed arable farming in the humid tropics; b) rainfed arable farming in the semi-arid and subhumid zone; c) extensive grazing; d) agro-forestry.

1) Inventory of land characteristics regarding erosivity, relief, erodibility, present and past erosion in relation to land use and erosion hazard.
2) Monitoring of land transformation (degradation and conservation) by means of teledetection.
3) Land use systems and their actual and potential land cover.
4) Modelling of interactions between land use in catchment areas (effects of flooding, silting, colluviation, degradation, etc.).
5) Land suitability based on resistance to erosion and other land qualities.
6) Implementation of soil conservation measures based on land suitability assessment.
7) Social and economic aspects of land conservation; priority areas for conservation and needs of (small) farmers.

Arrangements: The language of the Workshop will be English. Those ISSS members that have already indicated their interest, on the basis of earlier announcements, will automatically receive formal invitations and detailed information. Late applications for participations are still welcome.

Address: Prof. Dr. K. J. Beek, Chairman ISSS Working Group on Land Evaluation, c/o ITC, P.O. Box 6, 7500 AA Enschede, the Netherlands. Cables AERSUR, telex 44525 NL.
Announcement

INTERNATIONAL CONFERENCE ON SOIL CONSERVATION
‘SOIL AND WATER CONSERVATION TO PREVENT FOOD SHORTAGE’
Maracay, Venezuela, 3–9 November 1985

Organization
The IV International Conference on Soil Conservation will be organized by the Venezuelan Society of Soil Science and the Central University of Venezuela (Faculty of Agronomy) with the sponsorship of the International Society of Soil Science, the World Association of Soil and Water Conservation, the Inter-American Institute for Cooperation on Agriculture, and the Ministry of Environment and Natural Resources of Venezuela.

Subject
It is intended as a Conference for presenting the latest developments in soil and water conservation practices while maintaining or increasing agricultural productivity, under different climatic conditions. Special attention will be given to reports concerning the impact of soil and associated water conservation problems and practices on the productivity of rainfed agriculture for the semi-arid and humid tropical and subtropical areas of the World.

Programme
The programme will include technical sessions, with keynote invitational papers, and oral and poster presentations of selected papers submitted by participants. A 4–5 days pre-conference field excursion (Maturin-Tucupita-Ciudad Guayana-Guri-El Tigre-Valle de la Pascua-Maracay), a 1 day local field tour (Maracay-Colonia Tovar-Caracas-Maracay) during the conference, and a 5–6 days post-conference excursion (Maracay-Barinas-Merida-Trujillo-Bocono-El Tocuyo-Barquisimeto-San Felipe-Maracay) will also be included in the programme. Spanish and English will be the official languages, probably with simultaneous translation.

NOTICE OF INTENT

Name: ............................................................ Title: .................
Institution and position: ..........................................................
Postal address: ....................................................................
☐ I expect to attend the IV International Conference on Soil Conservation, Nov. 85.
☐ I intend to submit a paper (a poster) on ..........................................................
☐ I am interested in receiving further details about the Conference.

Date: .................................. Signature: ..................................

This notice of intent should be returned by October 31, 1984 to: Prof. Dr. Ildefonso Pla Sentis, Organizing Committee IV International Conference on Soil Conservation, Sociedad Venezolana de la Ciencia del Suelo, Apartado 1208–Santa Rosa, Maracay, Venezuela.

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ISSS Working Group RS

Announcement

FOURTH INTERNATIONAL SYMPOSIUM ON REMOTE SENSING FOR SOIL SURVEY
Wageningen and Enschede, The Netherlands, 4–8 March 1985

Programme

This Symposium replaces the Remote Sensing Symposium in Dakar, Senegal, end 1984 or January 1985, as announced earlier. It is organized by the Working Group on Remote Sensing of Commission V of the ISSS, and will be held at the International Agricultural Centre (IAC) in Wageningen and the International Institute for Aerial Survey and Earth Sciences (ITC) in Enschede, the Netherlands. The programme will consist of voluntary papers, poster sessions and keynote papers by invited speakers.

The following sessions are intended:

I Remote Sensing in the Visible and Near Infra-red
II Remote Sensing the Thermal Infra-red
III Remote Sensing in the Microwave region
IV Recent developments on methodology in Remote Sensing and its application in soil and vegetation inventory.

A one-day field trip is included. Furthermore, attention will be paid to the activities of the Institute for Aerial Survey and Earth Sciences (ITC) in Enschede, the Agricultural University, the Dutch Soil Survey Institute (Stiboka), and the International Soil Reference and Information Centre (ISRIC) in Wageningen.

Papers and Proceedings

Voluntary papers are requested, dealing with Sessions I, II or III. Session IV consists entirely of invited papers. Extended abstracts (2 pages) of voluntary papers should be received by December 1, 1984. Languages: English or French. Texts should be provided in one of these, but the abstracts in both languages.

The Symposium Proceedings will become available in the first half of 1986.

Costs

Registration fee per person will be Dfl. 210– (approx. US $70). The fee covers also the Proceedings, transport for field trip and social events. Accommodation at IAC will be Dfl. 42.50 (single room), lunch Dfl. 10.– and dinner Dfl. 15.–.

NOTICE OF INTENT

Name and academic title: .................................................................
Mailing address: ........................................................................

☐ I expect to attend Symposium Remote Sensing for Soil Survey 4–8 March 1985
☐ I propose to submit a paper entitled: ...........................................

☐ I shall be accompanied by: ...........................................................

Date: .................................. Signature: .........................................

This notice of intent should be returned by October 1st 1984 to the organizing committee c/o Dr. M. A. Mulders, Agricultural University, Dept. of Soil Science and Geology, P.O. Box 37, 6700 AA Wageningen, the Netherlands.
Organizing Committee

An International Symposium on world savannas will be held in the second fortnight of March, 1986 (modified date), in Brasilia, Brazil, under the auspices of the Brazilian Agricultural Research Corporation (EMBRAPA), the Scientific and Technological National Council (CNPq), and the International Society of Soil Science (ISSS). This event will be organized by the Cerrados Agricultural Research Center (CPAD/EMBRAPA) and the Brazilian Society of Soil Science (SBCS).

Subject

Previous symposia – six in total – were devoted only to Brazilian Cerrados (local designation for savannas). The present one will however emphasize the comparison among different savannas, especially in terms of suitable technology for their use. In this sense, it will be a joint effort with Commissions IV, V, and VI of the ISSS.

Programme

The programme will include mainly invited keynote papers and panel sessions, but papers on related subjects and technical posters will also be accepted by the Organizing Committee. The programme will also include a technical excursion, for a limited number of foreign participants only, from São Paulo State to Brasilia, in order to discuss soil distribution and use. Portuguese and English will be the official languages.

NOTICE OF INTENT

Name and academic title ..........................................................................................................
Address ..................................................................................................................................
Institution.................................................................................................................................
☐ I am interested in receiving further details on the International Symposium on Cerrado, March 1985, Brasilia.
☐ I expect to attend the Symposium.
☐ I should like to participate in the technical excursions.
☐ I shall be accompanied by ............................................................................................... 
☐ I propose to submit a paper on ...........................................................................................
☐ I propose to submit a poster on ...........................................................................................

Date: ........................................ Signature: .................................................................

This notice of intent should be returned by October 1st, 1984, to: Dr Wenceslau Goe- dert, VII Simpósio Sobre Cerrado, Caixa Postal 70–0023, 73.000-Planaltina-DF, Bra- zil.
Those ISSS members who have already completed the Notice of Intent printed in Bulletin no. 63 (1983/1) will receive a communication from the Organising Committee, in which confirmation will be requested on their interest for participation at the new date.
Two meetings were organised by the FAO Regional Office for Africa, jointly with the national soil survey institutes of the host countries: Sudan and Niger. These meetings formed part of FAO's programme of soil correlation and land evaluation, effectuated through an East African and a West and Central African subcommittee. The meetings were held in Wad Medani, Sudan from December 5–10, 1983 and in Niamey, Niger, February 6–12, 1984. Each meeting was attended by some 50 persons, among them staff of the organizing institutes, national delegates from the subregion (from eight countries in Wad Medani and fourteen in Niamey) and observers, representing international research and development agencies (including FAO, ISRIC, LRDC/ODA, ORSTOM, Suboka, Unesco).

The main topic of the Sudan meeting was 'Properties, management and classification of Vertisols'. During the technical sessions a number of country papers were presented, mainly outlining occurrence, extent and specific management problems of Vertisols in the respective countries.

The fieldtrips were highlights of this meeting. The five excursions covered mainly the area between the White and the Blue Nile; seven pedons were studied, all Vertisols. The very lively discussions around the enormous pits, in particular on management problems, were most stimulating. The field guide provided ample information on the land and soil features.

The Soil Survey Administration deserves high credit for the perfect local organisation of the workshop, in particular the fieldtrips.

The theme of the Niger-meeting was 'Land Evaluation for Irrigated Agriculture: Case Studies'. Most country reports dealt with soil surveys carried out for the preparation of irrigation schemes, and covered a wide range of soil conditions and working procedures.

A four-day excursion led to some green islands of irrigated agriculture amidst the barren sahelian landscape, and showed a great variety in geology, landforms, soils, sources of water, irrigation project design, and choice of crops. Ample information was contained in the field guidebook. Nine soils pits were inspected, representing two Luvisols, two Arenosols, two Gleysols, a Fluvisol, a Vertisol and a Cambisol. Discussions focussed on classification aspects, correlation and use limitations of the soils.

The Soils Department of INRAN provided excellent facilities and logistics for both the meeting and the fieldtrip.

These meetings are excellent fora for the participants to exchange ideas and to discuss mutual problems in soil survey and land evaluation, to serve as a useful basis for exchange of research experiences on the management of various types of soils in the sub-regions.

The next meetings will be held in 1985 in Lesotho, and in 1986 in Congo or Benin. The papers of the meetings and field excursions will be published as usual in the FAO World Soil Resources Report Series. For more information on the African subcommittee meetings contact: Dr. Racim Sant'Anna, FAO Regional Office, P.O. Box 1628, Accra, Ghana.

R. F. van de Weg and C. A. van Diepen, Wageningen, the Netherlands.
A Workshop on Changing Biogeochemical Cycles and Human Health, organized by Dahlem Konferenzen (Directress: S. Bernhard, M. D.) was held on March 20–25, 1983, at Europe Center, West Berlin. The goal of the workshop was to evaluate the potential health consequences from alterations of biogeochemical cycles of metals by society. Forty-eight participants from 13 nations were the experts of soil science, geochemistry, plant nutrition, animal nutrition, human nutrition, biochemistry, toxicology and hygiene science. The participants met in four groups:

- Structure, mechanism and toxicity (moderator: R. A. Goyer)
- Perspectives and prospectives of health effects (moderator: T. W. Clarkson)

Nineteen background papers providing reviews of each field were written by some participants and were circulated to all participants before the meeting.

In the workshop, the environmental problem on metals was discussed from many standpoints in the group and plenary sessions. During the workshop, each group prepared a Group Report which reflects the essential points of its discussions and includes suggestions for future research needs. The report of the workshop, including 19 background papers and 4 group reports, will be published as 'J. O. Nriagu ed.. Changing Metal Cycles and Human Health. Dahlem Konferenzen, Berlin, Heidelberg, New York, Tokyo: Springer-Verlag'.

Participants undoubtedly had a fruitful and enjoyable week that culminated in a lively farewell party. The organizers deserve warm congratulations for their remarkable performance.

It is felt that the intimate contact between soil scientists and the scientists of the other fields is very profitable to solve the environmental problem on metals.

Teruo Asami, Ami, Japan

V CONFERENCE EUROPEENNE DES GROUPES DES ARGILES
Prague, Tchécoslovaquie, 31 Août – 3 Septembre 1983


Les travaux de la conférence se sont développés autour des 8 thèmes suivants:
- Structure et cristallochimie des minéraux argileux (Pdt. V. Dritz, U.R.S.S.)
- Minéralogie et géochimie de l’argilosphère (Pdt. L. Stocho, Pologne)
- Matériaux argileux dans l’environnement (Pdt. F. Veniale, Italie)
- Interactions argile-matière organique (Pdt. E. T. Deggens, R.F.A.)
- Dépôts et gisements argileux (Pdt. M. Störr, R.D.A.)
- Méthodes d’investigation des argiles (Pdt. J. Thorez, Belgique)
- Argiles des sols (Pdt. G. Pedro, France)
- Argilologie appliquée (Pdt. I. Rosenquist, Norvège)

A côté des conférences, il y a eu une trentaine de communications sous forme de posters fort intéressants. La conférence s’est terminée par une visite des fameux gisements de Kaolin de Pilsen et de Karlovy-Vary le 3 Septembre.

G. Pedro, Versailles, France
INTERNATIONAL WORKSHOP AND LAND EVALUATION FOR
EXTENSIVE GRAZING
Addis Ababa, Ethiopia, 30 October – 4 November 1983

This workshop was one of a series of studies on land evaluation for different kinds of land use, designed to fill out the Framework for land evaluation (FAO Soils Bulletin 32, 1976) with more specific detail. Under the auspices of the ISSS Working Group on Land Evaluation it was organized jointly by the International Institute for Aerial Survey and Earth Sciences (ITC) and the International Livestock Centre for Africa (ILCA). It was attended by 42 scientists from 20 countries.

Fifteen papers were presented, including the background paper by I.S. Zonneveld, ‘Principles of land evaluation for extensive grazing’. A further ten papers were distributed but not orally presented. Six working groups then drafted reports on different aspects: the multistage production character of extensive grazing, land utilization types and their attributes, the determination of carrying capacity, land qualities and their rating, social and economic aspects, and presentation of results. Proceedings of the workshop are being prepared by ITC and will be published by ILRI. Further follow-up activities are to be coordinated by FAO, Rome.

Extensive grazing was defined as animal production systems that rely mainly on a feed resource base consisting of natural and semi-natural vegetation. Improvements to the primary production base are relatively minor, but there may be inputs to meet animal requirements, e.g. improvements to water supply, health care, limited supplementary feeding. Thus ‘extensive’ was interpreted not necessarily to mean ‘of great aerial extent’ but as implying dependence on the natural vegetation.

The main features distinguishing extensive grazing from other kinds of land use are first, the two-stage character of production (climate/water/soil to vegetation, and vegetation to animal production) and secondly, the ability of animals to move seasonally (nomadism, transhumance, etc.). Land qualities for the primary stage are similar to those for rainfed crops, those for the secondary stage, distinctive: forage availability, water availability, biological hazards, climatic hardship, accessibility for animals, ease of fencing and hedging, and location were identified. Seasonal movements pose considerable problems to evaluation; the concept of seasonal land utilization types was proposed, although did not meet unanimous approval. Estimation of carrying capacity, the maximum stocking rate possible at a specified level of management without inducing damage to vegetation clearly plays a critical role. A schematic model was prepared showing the relationship between evaluation in physical terms, social analysis, economic land evaluation and the wider economics of project analysis. The overall conclusion was that it will indeed be possible to draw up a set of evaluation guidelines for extensive grazing, a result of which not all participants had been confident prior to the workshop.

Concern was expressed at the seriously degraded state of much tropical grazing land, and it was affirmed that land evaluation, where it could be translated into practical measures of land use planning, had a role to play in ameliorating this situation.

Quite apart from the excellent domestic arrangements, this was academically the best organized meeting this reviewer has ever attended. The elements which led to such an outcome were: 30–40 active participants; one background paper, giving enough material to provide a basis for discussion but not so much as to choke it; presentation of selected papers, with a sensible amount of time for delivery and discussion; and a schedule of two days of papers, one day field excursion, one day in working groups and a final day of reporting of these groups and discussion in plenary session.

Anthony Young, ICRAF, Nairobi, Kenya
INTERNATIONAL SYMPOSIUM ON RED SOILS
Nanjing, China, 15–29 November, 1983


About 20 invited foreign scholars joined a group of about 60 Chinese soil scientists for five days of paper presentations and discussions on red soils of the world at large, and those of southeastern China in particular. This was followed by a ten-days excursion through the red soils area. Mainly with very comfortable trains the group travelled gradually from Nanjing to Shanghai, to Changsha, Guilin, Guangzhou (Kanton), and Hongkong. Landscapes, soils and agricultural production in the areas were inspected, and on-the-spot correlations were made with similar soils and their production potential elsewhere in the world. The upland soils inspected successively were (with the tentative correlation in FAO-Unesco legend terminology between parenthesis): Yellow brown earths (chromic and orthic Luvisols); Red earth (ferric Acrisols); Purplish soil (vertic Cambisol); Limestone red soil (chromic Luvisol); Luvic Limestone red soil (vertic Luvisol); and several Lateritic red earths (mainly ferric, or rather ‘ferralo-orthic’, Acrisols).

Also several ‘paddy soils’ derived from upland soil materials were shown. Century-long paddy-rice cultivation on these terraced lower slopes has very strongly modified the upper part of the profiles, and the introduction of ‘anthraquic’ prefixes to the classification units was proposed (anthraquic-chromic/orthic and anthraquic-ferric Luvisols and Acrisols mainly).

Most of the soils mentioned have also been sampled for the world soil monolith reference collection at ISRIC, through a current programme of cooperation between the Academia Sinica and the Dutch Academy of Sciences.

The foreign guests had the pleasure of visiting several historical and scenic sites, communes, experimental stations/institutes, and nature reserves. The organizing secretary Prof. Gong Zi-tong and his staff should be complimented for their tireless efforts to make the Symposium and the field tour another successful event.

W. G. Sombroek, Wageningen, the Netherlands

INTERNATIONAL CONFERENCE ON ADVANCING AGRICULTURAL PRODUCTION IN AFRICA
Arusha, Tanzania 12–18 February, 1984

The conference was organized jointly by the Commonwealth Agricultural Bureau (CAB) and the National Scientific Research Council of the Government of Tanzania with the objective ‘to support and strengthen efforts of administrators, directors and senior professional scientists, responsible for agricultural development in Africa; and to align their work to the needs, resources and constraints of development in their nation’. The conference was opened by President Nyerere and was attended by about 300 participants representing 35 countries and many national and international organizations.

In addition to the plenary sessions, the conference was organized into three concurrent symposia: (A) Crop Production, Protection and Utilization, (B) Animal Production and Health, and (C) Natural Resources Management. The Symposium A considered at length the crop improvement and crop protection strategies of major crops of Tropical Africa e.g. cereals, root, pulses, vegetables, and annual and perennial cash
crops. The Symposium B discussed the problems and potentials of small and large scale animal production systems, marketing and planning.

The Natural Resources Management symposium deliberated on the aspects of climate and weather; terrain, land, and water and their management; and biological resources. The resources assessment of tropical Africa, their capability and production potential and management constraints, were discussed in details. Some specific soil management problems discussed were land clearing and development, erosion control, appropriate tillage methods, water resource development, nutrient leaching, acidification, and nutrient requirements and management. It was emphasised that the scientific understanding of environmental shortcomings is necessary to proper planning for resource development and utilization.

The symposium was superbly organized and succeeded in achieving its objectives of strengthening linkages among various sectors involved in agricultural development, and in suggesting a ‘checklist’ of priorities for future planning and action towards advancing agricultural production in Africa. The conference proceedings and its recommendations, when published, will no doubt be important reference for researchers, developers and policy makers interested in agricultural production in Africa and elsewhere in the tropics. The technical program was extremely well thought of. The excellent arrangements made by the local organising committee, and the most befitting venue overlooking Mont Meru and its serene environments, provided an ideal atmosphere to discuss this important and pressing subject of advancing agricultural production in Africa.

R. Lal, IITA, Ibadan, Nigeria

**SYMPOSIUM ON ‘THE GLOBAL CARBON CYCLE: ANALYSIS OF THE NATURAL CYCLE AND IMPLICATION OF ANTHROPOGENIC ALTERATIONS FOR THE NEXT CENTURY’**

*Knoxville, Tennessee, USA, October 31 – November 2, 1983*

This timely symposium, the sixth in a series of Life Science Symposia organised by Oak Ridge National Laboratory, was held after the recent release of the US Environmental Protection Agency Reports ‘Can We Delay a Greenhouse Warming?’ and ‘Projecting Future Sea Level Rise’, and a US National Research Council committee report on ‘Changing Climate’. Both sets of reports, with the EPA ones more gloomy in outlook, received wide coverage and attention in the media. Lively discussion among the 340 symposium attendees (5% from overseas) was thus assured. While mostly attended by biologists, energy resources modellers, and some oceanographer-geochemists, it also became clear that for modelling purposes the past is the key to the future. Hence better evidence of past atmospheric CO$_2$ levels and perturbation dynamics, ocean composition, vegetation and soil carbon pools in different environments are needed, in order to better evaluate the past, present and future effect of atmospheric CO$_2$ cycles on climate.

For the soil scientists of greatest interest were papers on continental and global scale remote sensing of the land cover with special attention to the tropics (Tucker, NASA and Woodwell, Woods Hole), on the use of historical land use data to estimate changes in terrestrial ecosystems (Houghton, Woods Hole), and Schlesinger’s (Duke Univ.) exposition on changes in carbon storage of soils when subjected to agriculture. Yaalon and Schlesinger also held a workshop on inorganic carbon storage and dynamics in semi-arid soils.

To what extent the recent (100 years) rapid increase in atmospheric CO$_2$ is a function of fossil fuel burning and/or of changes in carbon storage in soils and vegetations,
as a result of deforestation and humus decomposition in arable soils, continues to be a major point of uncertainty, while the atmosphere-ocean interrelations are also still incompletely known. Better data for the evaluation and reconstruction of carbon pools and dynamics in terrestrial and marine environments in prehistoric times are thus urgently sought.

Mankind is conducting an uncontrolled global climatic change experiment. Soil scientists should not only be aware of this, but be ready with supplying the needed data for evaluating the impact of deforestation and agricultural systems on the carbon storage and its dynamics in soils, and on biomass of various environments.

D. H. Yaalon, Jerusalem, Israel

PRIMERA CONFERENCIA LATINOAMERICANA DE ROCA FOSFORICA
Cochabamba, Bolivia, 10-15 Octubre, 1983

La Primera Conferencia Latinoamericana de Roca Fosfórica, fue considerada un evento científico singular y especial en medio de la agitación social y económica que se vive hoy en el Continente. El lenguaje utilizado fue familiar y común entre los participantes con formación profesional diversa, en torno a un aspecto vital para desarrollar mejor los medios y recursos de Latinoamérica. En verdad, la roca fosfórica fue el tuma que ocupó por cinco días a Geólogos, Metalurgistas y Agrónomos, interesados en intercambiar ideas y enforzar el problema desde un punto de vista general.

La experiencia fue buena, el aporte significativo y los resultados mostrarán nuevas direcciones para planificar mejor el aprovechamiento de este recurso que parece no ser muy conocido en su potencialidad en Latinoamérica.

Se presentaron más de 35 trabajos relacionados con experiencias sobre roca fosfórica en Latinoamérica, su potencialidad y como es lógico, sobre los resultados obtenidos en su aplicación directa en agricultura. Los países representados fueron: Argentina, Perú, Brasil, Ecuador, Colombia, Costa Rica, México y Bolivia, además de representantes de la GTZ-Alemania, IDRC-Canadá y la comisión técnica Suiza.

Entre las recomendaciones que se aprobaron, se contempla la formación de una Secretaría permanente del Grupo Latinoamericano de Investigadores de la Roca Fosfórica con sede en Cochabamba, Bolivia. Este grupo servirá de punto de apoyo en la formación de grupos dedicados a la investigación y ofrece ya su experiencia para conducir eventos hacia un mecanismo que permite mantener las relaciones estrechas y continuas entre profesionales de las Ciencias del Suelo en esta parte del Continente.

Entender las ciencias del suelo al juntarse agrónomos y geólogos, fue una forma de entender el alcance real de los objetivos de proyectos agrícolas, cuando los recursos locales son la fuente de materia prima. Al terminar la Conferencia se entendió que las Geociencias son el límite real del conocimiento práctico y que los límites geológicos o agronómicos son premisas únicamente para motivar una investigación, en este caso sobre la Roca Fosfórica.

Así concluyó una actividad muy necesaria en Latinoamérica, se abrieron nuevas esperanzas y deseos de trabajar mancomunadamente, se concentraron nuevos caminos posibles de recorrer, que aporten al la Historia Científica de Latinoamérica.

Jose G. Salinas, CIAT, Cali, Colombia
ISSS Working Group IRB

In the three preparatory meetings on the elaboration of an International Reference Base for soil classification, held in Sofia (see Bulletin 64, p. 20) it was agreed that:

a) the determination and quantification of diagnostic characteristics to be used in the definition of classes, the definition of categories and classes which have been recognized; the elaboration of a key for their classification, and the preparation of guidelines for a further subdivision in lower categories should be entrusted to 16 international Working Committees.

b) the 16 Working Committees will each deal with one of the following groups of soils to be separated at the higher levels of generalisation (with the names and addresses of the identified Convenors who have already accepted their nomination).

1. Weakly developed soils: Dr. Ing. H. de Bakker, Dutch Soil Survey Institute, P.O. Box 98, 6700 AB Wageningen, the Netherlands.
2. Swelling/shrinking soils: Dr. J. C. Bhattacharjee, National Bureau for Soil Survey and Land Use Planning, Seminary Hill, Nagpur 440006, Maharashtra, India.
3. Groundwater influenced soils: Prof. Dr. M. Ciric, Sumarski Fakultät, Zagrebacka 20, YU-71000 Sarajewo, Yugoslavia.
4. Saline/alkali soils: –
5. Calcic/gypsic soils: Dr. T. G. Boyadgiev, AGLS-FAO, Via delle Terme di Caracalla, 00100 Rome, Italy.
6. Molllic soils: Dr. R. L. Guthrie, Agron. & Soil Dept., Room 201, Funchess Hall, Auburn AL 36849, U.S.A.
7. Umbric and shallow soils: –
9. Fersialic soils: –
10. Ferralic soils: Dr. R. F. Isbell, CSIRO, Division of Soils, Private Mail Bag, Aitkenvale, QLD 4814, Australia.
11. Andic soils: –
13. Podzolized soils: Dr. J. A. McKeague, Land Resources Research Institute, C. E. F. Agriculture Canada, Ottawa, Ontario K1A OC6, Canada.
14. Histic soils: Dr. R. S. Farnham, Dept. of Soil Science, University of Minnesota, 1529 Gortner Avenue, St. Paul, Minnesota 55108, U.S.A.
15. Pergelic soils: –
16. Anthropogenic soils: –

All interested ISSS members – including those who already expressed their general interest in the Working Group during the 12th International Congress of Soil Science in New Delhi – are kindly requested to declare their specific interest in contributing to the work of one (or several) of the Committees, by a message to the Convenors and/or the undersigned, as Chairman of the Working Group (P.O. Box 700562, D-7000 Stuttgart 70, F.R.G.).

E. Schlichting, Stuttgart-Hohenheim, FRG.
This highly successful conference with 207 participants from 20 countries, was eighth in the series begun in Hungary in 1964 under the auspices of the ISSS Sub-Commission on Salt-Affected Soils. The organizing committee, drawn from the Israel Society of Soil Science and chaired by B. Yaron, deserve hearty congratulations from all those attending. The scientific programme ran smoothly, as did the post-conference tours, and warm and convivial hospitality led to many friendships being formed.

During the 32 hours of conference sessions 68 papers were presented, of which 20 are to be published in book form by Springer-Verlag, the expected publication date being October 1984. A further 15 papers are to be submitted to Irrigation Science for consideration for publication in that journal.

At the opening ceremony the conference received greetings from, among others, M. Ben-Meir, Director General, Ministry of Agriculture, Israel, and I. Szabolcs, Deputy Secretary General, ISSS. J. Letey, University of California, set the scene for the conference discussions with the opening lecture detailing the extent to which salinity as a long-standing and world-wide field problem, has been intimately involved with the development of soil science. Salinity problems have stimulated research into such basic processes as water and solute transport phenomena, cation exchange reactions, various colloid phenomena, swelling, dispersion, flocculation, and mineral precipitation and dissolution.

The contributed papers were organized into the following sessions: salinity effects on soil physical and chemical properties, salt transport in irrigated soils, sodicity and salinity criteria and methodology, reclamation of salt affected soils, genesis and distribution of saline soils, soil salinity under irrigation management, crop behaviour under saline conditions, salinity effects on crop production, and plant nutrition under saline conditions.
Among the many topics which aroused widespread interest, perhaps I could single out one for special mention and that is the matter of the appropriate management strategy for making use of a ‘saline’ water supply for crop production. More and more frequently such waters are being examined for use, either because fresh water supplies are fully utilised, or are locally unavailable, or because there is a requirement to dispose of saline drainage waters. Factors to be considered include appropriate leaching, maintenance of soil permeability and, of course, crop salt tolerance and interaction with other nutrients. Possible strategems include mixing of water supplies, separate application of fresh and saline water in a predetermined sequence depending on sensitive and tolerant stages of growth and on the crops in rotation, and addition of ameliorants to the soil of water. Field experiments examining various aspects were visited during the post-conference tours, and in general it seemed that there was considerable optimism for the possibility of using to advantage many waters previously considered unsuitable.

An almost complete circuit of Israel was available to those taking tour 1 followed by tour 2. We were thus made familiar with the landscapes and agriculture extending from the relatively wellwatered north to the deserts of the south. Along the way we visited and discussed experiments to do with irrigation management and practice under saline water and/or soil conditions, experiments to reclaim saline sodic soils high in boron, to harvest water from loess soils, and to warm agricultural crops using geothermal saline irrigation water. A. Meiri, who accompanied the tours throughout as scientific guide and coordinator, made them a great success. A day in Jerusalem to relax and to see the sights, and in Eilat to visit the underwater observatory and aquarium added to the enjoyment felt by all.

Despite the widespread evidence in Israel of success in irrigation by implementing modern technology, we do well to recall the statistics presented by I. Szabolics, showing that more than half of the world’s irrigated soils are affected by secondary salinity or sodicity and that these hazards are currently on the increase. Conferences such as this one, which provide opportunities for transfer of knowledge and development of international research collaboration, must make a significant contribution to the eventual control of salinity hazards.

J. Loveday, Canberra, Australia.
ISSS Commission VII

A Soil Mineralogy & Genesis Intercongress Excursion in Southeastern and Southwestern U.S.A. is planned, lasting seven days, with as tentative dates July 21-27, 1985. This pre-AIPEA field trip will emphasize natural metal oxides and hydroxides in soils. It will begin in Atlanta, Georgia and proceed south toward the Gulf of Mexico across Alabama, Mississippi, Louisiana, and Texas where the trip will terminate and participants will fly to Denver, Colorado for the International Clay Conference. The eastern part of the journey will be devoted to Ultisols (Acrisols) formed on crystalline rocks acid Coastal Plains sediments and loess; Inceptisols (Cambisols) in Mississippi River alluvium; and finally the Alfisols (Luvisols), Entisols (Fluvisols, Regosols), and Mollisols (Phaeozems, Kastanozems, Chernozems) formed in sedimentary materials of East, Central, and North Texas. Features of interest will include types of iron oxides, plinthic soils, the 'red edge' effect of Daniels et al., gibbsitic soils, deeply weathered regoliths, reclamation of lignite mine spoil, acid sulfate weathering, kaolin and bentonite where conveniently available, and selected cultural stops.

Estimated cost for travel by air conditioned bus, food and lodging during the trip is $575 is fully subscribed. Exact stops and price cannot be determined at this time. The trip will be held only if the number of participants is sufficient (ca 25-40) to make it self-supporting. Interested persons should contact Dr. J. B. Dixon, Chairman ISSS Commission VII, c/o Department of Soil & Crop Sciences, Texas A&M University, College Station, Texas 77843-2474, U.S.A.

ISSS Working Group FS

An international workshop entitled 'Ecological Consequences of Air Pollution on Coniferous Forest Ecosystems' will take place at Brno, Czechoslovakia in October 1984. A planning committee made up of representatives from MAB, the International Union of Forest Research Organizations (IUFRO) and the International Society of Soil Science, Working Group on Forest Soils, have drawn up a tentative programme, as follows:

- Impact of acid and alkaline, dry and wet deposition (fall-out) on forest soils.
- Ecological consequences of heavy metal accumulation on the soils.
- Function, changes and buffer capacity of the soil humus layer in areas contaminated by emissions of pollutants.
- Changes of water quality in relation to forest cover.
- Soil resistance to emissions of pollutants and corresponding soil classification.
- Impact of pollution on forests from the viewpoint of their function in a landscape.
- Possibilities of upgrading of polluted forests.
- Stress theory of forest trees and ecosystems.
- Impact of air pollution on physiological process of forest trees and stands.
- Changes in nutrient cycling of coniferous forests, caused by air pollution.

Inquiries should be addressed to: Dr. Ing. E. Klimo, CSs., Institute of Forest Ecology, Faculty of Forestry, University of Agriculture, Zemedelska 3, Brno, Czechoslovakia.

ISSS Working Group PT

As announced in ISSS Bulletin No. 62 (p. 9), the first activity of the Working Group Pedotechnique was to plan a technical session at the 13th ISSS Congress in Hamburg, 1986. From the response to that announcement, received from a variety of sources, it was concluded to be necessary to restrict the range of topics listed. The session
will now focus on interpretations of soil surveys for tillage and in particular for compaction problems associated with tillage of agricultural soils. The theme will be the development of classification schemes to assess the susceptibility of surveyed soils to these problems, based on current trends in soils science.

The title of the technical session will be ‘Pedotechnical interpretations of soil surveys for tillage and compaction’. ‘Pedotechnical’ implies that participants will be primarily soil scientists (Commission VI) specializing in this field, but the papers will be addressed to soil survey interpretation specialists (Commission V) for the purpose of extrapolating the problem to geographical areas.

The papers will be similar to regional reports giving the nature of problems experienced, the approaches adopted, and research progress. The papers will also include a classification scheme, either presently in use, or a proposed scheme. The classification schemes should be for use in detailed soil surveys, or relevant research sites. However, they should also be useful for farm applications in a practical way and not be overgeneralized. A 7-class system would give adequate scope for practical application and be in agreement with well known existing schemes, e.g. Agricultural Capability (Classes 1 to 7) and Soils Engineering (AASHTO Classes A-1 to A-7).

After the technical session, a meeting of the Working Group will be held, entitled ‘Towards a classification scheme to assess the susceptibility of agricultural soils to compaction associated with tillage’. The objective will be to prepare a specific recommendation to ISSS outlining an acceptable classification scheme, or the reasons for recommending otherwise. It is intended to restrict attendance at the meeting to a degree consistent with achieving the objective. Meanwhile, any suggestions aimed at improving the end product will be appreciated.

Addresses: Dr. G. Wilson, Chairman, c/o Land Resource Inst. C. E. F., K. W. Neatby Bldg., Ottawa, Ont. K1A OC6, Canada and Ir. C. van Ouwerkerk, Secretary, c/o Inst. for Soil Fertility, P.O. Box 30003, 9750 RA Haren, the Netherlands

ISSS Working Group MV

A two-day workshop is being planned by the Working Group of Commission I on moisture variability of field soils (MV). This workshop will be held following the Agronomy Meetings of the American Society of Agronomy in Las Vegas, U.S.A. (November 26-30, 1984).

Four themes will be explored in half-day sessions, covering general concepts and applications to: soil science and hydrology, soil survey and leaching and solute movement.

A limited number of invited speakers will initiate discussions, which are intended to constitute the major part of the program. Voluntary papers are not invited: For more specific information please contact the convenors: Prof. Dr. Don Nielsen, Dept. of Land, Air and Water Resources, University of California, Davis CAL, 95616, U.S.A. or. Dr. J. Bouma, Netherlands Soil Survey Institute, Box 98, 6700 AB Wageningen, the Netherlands.
Malaysian Society of Soil Science
The newly elected members of the MSSS Management Committee for the Year 1984/85 are as follows:

President: Dr. Mok Chak Kim
Vice-President (Pen. Malaysia): Dr. Hj. Mohd Noordin Hj. Wan Daud
Vice-President (Sabah): Mr. Kong Hon Hyen
Vice-President (Sarawak): Mr. Ahmad Hj. Ebon
Hon. Secretary: Dr. Abu Talib Bachik
Hon. Treasurer: Dr. Mohd Noor Sudin
Hon. Asst. Secretary: Dr. Azmi Mat Akhir
Hon. Asst. Treasurer: Dr. Chong Kewi
Committee Members: Dr. Chan Yik Kuan; Dr. Aminuddin Yusoff; Mr. Lim Kim Huan, Peter; Mr. Chang Ah Kow

Address: P.O. Box 2644, Kuala Lumpur, Malaysia.

Sociedad Colombiana de la Ciencia del Suelo
Junta directiva 1984–1985:
Presidente: Ricardo Guerrero Riascos
Vicepresidente: Fernando Munevar Martinez
Revisor fiscal: Maria Cristina Forero, Fabio Calvo
Secretario Ejecutivo y Tesorero: Francisco Silva Mojica
Secretaria de Actas: Amparo Rojas E.
Comité de publicaciones: Francisco Silva, Luis I. Olarte
Secretaria de la Oficina: Dora Cantor de Castiblanco


Direccion permanente: Carrera 11 No. 66-34 Of. 204, A. A. 51791, Tel.: 211-33-83, Bogota, D.E., Colombia.

Sociedad Venezolana de la Ciencia del Suelo
Junta directiva, periodo 1982–1984:
Presidente: Ing. Agr° Leandro Madero (MARNR)
Vice-Presidente: Ing. Agr° Oswaldo Luque (FONAIAP)
Secretario: Ing. Agr° Stalin Torres (U.C.V.)
Tesorero: Ing. Agr° Fernando Granados (FONAIAP)
Vocal: Ing. Agr° Maria L. Paez C. (U.C.V.)
Delegado Internacional: Ing. Agr° Luis Bascones (FUSAGRI-UCV)


Direccion: Apartado 1208, Santa Rosa, Maracay, Edo Aragua, Venezuela.
Prof. Dr. Angel Hoyos de Castro 70 years of age

Prof. Dr. D. Angel Hoyos de Castro, Professor at the Complutense University of Madrid and Director of the Institute of Edaphology and Vegetal Biology at the Consejo Superior de Investigaciones Científicas (C.S.I.C.), was retired on the 23rd February, 1983, as he has reached the regulated age. On this occasion he gave the traditional lecture 'ultima leccion' at the Faculty of Pharmacy.

During an emotional ceremony the C.S.I.C. nominated him Honorary Director of the Institute of Edaphology and Vegetal Biology, and the Review 'Anales de Edafología y Agrobiología', of which he has been President of the editing board, published a special issue in his honour (nums. 5–6, 7–8, 9–10, Vol. XLI).

Prof. Hoyos, doctor in Chemistry and in Pharmacy, was a 'Catedratico numerario' of Applied Geology at the Faculty of Pharmacy, Granada University. Later on he taught this subject, now called Edaphology, at the Complutense University until his retirement. He held the post of Vice-Dean and Dean at both Faculties.

He shared his educational life with his research work inside the C.S.I.C. He was nominated 'Consejero de Numero' and held Posts of responsibility as Secretary of the Division of Medical, Mathematics and Natural Sciences and also of the Natural and Agricultural Sciences of the 'Patronato Alonso de Herrera'.

He obtained higher academic distinction when he was appointed Academic of the Royal Academy of Pharmacy in 1972. His acceptance speech was on 'the past, present and future relations between man and his environment'.

All the books published by him, the innumerable theses he has directed and the great number of articles he has published in several scientific reviews, show his double function as 'maestro' and researcher. We can mention among his education works those with the titles 'Mineralogy', 'Petrography' and 'Edaphology', the latter one in collaboration with Prof. Albareda.

Within his research activity he has a whole work dedicated to the knowledge and characterization of the Spanish soils, following the scheme developed by Kubiena and Prof. Albareda of whom he was very close and admiring collaborator.

At present Prof. Hoyos is President of Spanish Society of Soil Science, which is a close affiliate of the International Society of Soil Science.

We very much hope that he will continue his academic work and his scientific research in the forthcoming part of his life which we wish to be long and fruitful.

E. Dorado, Madrid, Spain

Japanese Society of Soil Science

From 8th to 13th November 1983, the Secretary-general ISSS was the guest of the Japanese Society, to review possibilities and facilities for a future International Congress of Soil Science to be held in Japan. He also gave several lectures and interviews, mainly on elements of the World Soils Policy and its plan-of-action, at respectively the National Institute for Agricultural Science at Tsukuba; the National Institute for Research Advancement in Tokyo; the Tokyo University of Agriculture & Technology; and Faculty of Agriculture of Kyoto University. It was an opportunity for him to make acquaintance with many Japanese ISSS members, and he gratefully remembers the tireless attention of his guides Messrs. R. Hamada, M. Okasaki and S. Araki.
The Annual Meeting of the Polish Society of Soil Science was held at the Institute of Cultivation, Fertilization and Soil Science - Pulawy, during September 28–30, 1983. The topic of the Meeting was 'Rational use of soils – a base of food supply for the nation'.

During the Meeting the General Assembly of the Society elected for the time 1984–1988 the new Board of the Polish Society of Soil Science:

President: Prof. Dr. L. Królikowski
Vice President: Prof. Dr. S. Kowalinski
Vice President: Prof. Dr. S. Moskal
Honorary Vice President: Prof. Dr. Dobrzanski
Secretary: Doc. Dr. M. Górny
Treasurer: Doc. Dr. A. Sapec

Presidents of the Commissions:
Soil Physics: Prof. Dr. Z. Prusinkiewicz
Soil Chemistry: Doc. Dr. A. Sapec
Soil Biology: Doc. Dr. M. Górny
Soil Fertility and Plant Nutrition: Prof. Dr. Litynski
Soil Genesis, Classification and Cartography: Prof. Dr. F. Kuźnicki
Soil Mineralogy: Prof. Dr. S. Uziak
Working Group – Soil Information System/BIGLEB/: Doc. Dr. R. Truszkowska

Address of the Secretary: Polskie Towarzystwo Gleboznawcze, ul. Wisniowa 61, 02-520 Warszawa, Poland

Prof. Dr. B. Dobrzanski 75 years of age
Professor Dr. H. C. Bohdan Dobrzanski, emeritus professor ordinary of Agricultural University in Warsaw, member of the Polish Academy of Sciences, born 75 years ago on the 3rd March 1909 in Strutynka, began his scientific work on the 1st of April 1933 at the Technological University in Lwow, where he also obtained his doctorat.

Prof. Dr. Bohdan Dobrzanksi is an outstanding soil scientist, organizer of several research establishments; supervisor of many research projects; and educator of numerous scientific workers.

After the second world war he organized the Soil Science Department in the newly established Marie Curie-Sklodowska University of Lublin in the Agriculture Faculty and afterwards also the Soil Science Department in the Faculty of Biology and Earth Sciences. For nine years Prof. B. Dobrzanski was rector of this University and later of the Agricultural University. For his brilliant merits in the development of these Universities and for his scientific achievements he was honoured with the title of doctor honoris causa at both institutions. On his inspiration the unique Institute of Agrophysics was established, as part of the Polish Academy of Sciences in Lublin. For many years he was director of this Institute and he is currently the chairman of its scientific council. In 1969 he was nominated Director of the Soil Science Institute of the Agricultural University of Warsaw and he performed this function until 1979, when he went on retirement.
Prof. Dr. B. Dobrzanski held a number of honourable and responsible functions at the Polish Academy of Sciences. He has also been active in the Polish Soil Science Society and other scientific organizations. The research projects which Prof. B. Dobrzanski has initiated, supervised or coordinated, are of great scientific value and also important to agriculture practice. Of particular value are his works on the genesis, systematics and evolution of soils, particularly rendzinas, and on the dynamics of water retention and transmission in soils evolved from loess and sand. He was very interested in the development of agrophysical research, with special attention to the basic physical processes in soils and the results of agrotechnical activities. Of particular interest are the monographs, written in collaboration with other soil scientists: 'The agriculture value of soils in Eastern Poland', 'Rendzinas of the Lubelska Upland developed of carbonate rocks of Cretaceous period', 'Typology and properties of soils developed from boulder loam of the middle-Polish glaciation', and 'Surface area of arable soils of Poland'.

Prof. B. Dobrzanski is well known as one of the creators of soil cartography in Poland. He is co-author of the Soil Map of Poland at the scale 1:300000, main editor of Soil Map of Poland at the scales 1:500000 and 1:1000000 with included soils characteristics, and co-author of the Soil Map of Europe at the scales 1:2500000 and 1:1000000 which were prepared at the initiative of FAO.

Thanks to his research and ability to collaborate with other scientists Prof. B. Dobrzanski has reached a position of eminence among Polish soil scientists. He was elected member of the Hungarian Academy of Sciences, of the Soviet All-Union Agriculture Academy, and of the Agriculture Academy of the German Democratic Republic; he is also honorary member of the All-Union Soil Science Society of USSR and corresponding member of the German Soil Science Society of the Federal Republic of Germany.

Prof. B. Dobrzanski is author or co-author of over 330 publications, more than half of which are scientific publications. Very popular in Poland are his educational publications on soil science. An important achievement was the establishment and subsequent editorship of the 'Polish Journal of Soil Science' and the publication of a special Bulletin entitled 'The Problems of Agrophysics'. Prof. B. Dobrzanski has promoted 30 doctors of science, nine of which obtained the title of professor and several the title of associate professor.

Notwithstanding his many scientific duties and activities Prof. B. Dobrzanski has always been able to find enough time for his colleagues and students, even at the expense of his leisure and privacy.

J. Glinksi, Lublin, Poland

British Society of Soil Science

Changes in the Executive Committee, effective 1st January 1984:
Secretary: Dr. Peter Gregory, Department of Soil Science, University of Reading, Reading RG1 5AQ.
Editor Journal: Dr. David Crawford, School of Agriculture, University of Nottingham, Sutton Bonnington, Loughborough LE12 5RD.

Museum Exhibition on Soil

On March 12th, 1984, Leicestershire County Museums launched a travelling museum exhibit on Soil. The exhibit is the result of co-operation between the Museum, members of the Society of the Soil Survey of England and Wales, and is supported by BSSS, ARC and commercial sponsors.

The exhibit is substantial and together with a short booklet seeks to explain to the school child and non specialist the importance of Soil in our everyday lives and present some information on soil development and soil properties.
Sociedad Latinoamericana de la Ciencia del Suelo

The 8th Latin American Congress of Soil Science and the 10th Argentinian took place in the modern football stadium of Mar del Plata, Argentina’s most important summer resort, from 23 to 28 October 1983. The programme was composed of plenary sessions, oral presentation sessions per commission, round-table sessions, and poster sessions per commission. The four plenary sessions were devoted to technical speeches of invited soil specialists from the U.S.A. and Canada. Dr. C. A. Campbell from the Agriculture Research Station at Swift Current, Saskatchewan, Canada, gave a very interesting paper entitled ‘N Balance and Efficiency of Use with Emphasis on Canadian Prairie Soils’; Dr. R. R. Cairns from Alberta, Canada, spoke about ‘Reclamation of Solonetzic Soils’; Dr. J. T. Ritchie from Texas, U.S.A., gave a lecture on ‘Efficient Use of Water in Temperature Region Crops’. The lecture on Agricultural Use of Acid Tropical Soils, scheduled to be given by Dr. Pedro Sanchez, was given by Dr. Manuel Villavicencio, director of the Yurimaguas Experimental Station, Peru.

All the other sessions were concentrated on Argentinian work, caused by the poor participation of other Latin American countries, due to financial restrictions and communication problems. The only countries fairly well represented at the congress were Colombia and Uruguay.

Richard Breimer, Unesco, Montevideo, Uruguay

The 9th Latin-american Congress of Soil Science, combined with the 3rd Colombian Congress of Soil Science, will take place 26–30 August, 1985, in Palmira, Colombia.

El Congreso tendrá como tema central la ‘Conservación de Suelos en América Latina’, el cual será tratado en sus diferentes aspectos por conferenciantes invitados de los diferentes países latinoamericanos (Erosión, Manejo de Cuencas, Riegos y Aguas, Salinidad, Suelos Orgánicos, Oxisoles/Ferralisoles y Andisoles, etc).

Además se efectuará la presentación de trabajos sobre diferentes temas de la Ciencia del Suelo en las Comisiones del Congreso – (Química, Física, Riegos y Aguas, Fertilidad, Microbiología, Génesis y Clasificación, etc).

Durante el Congreso se efectuará una reunión de la Federación Latinoamericana de la Ciencia del Suelo para definir su estructuración y funcionamiento. También se efectuará la Asamblea General de la Sociedad Colombiana de la Ciencia del Suelo.

Finalmente se efectuarán varias excursiones a los Centros Experimentales del CIAT en Santander de Quilichao, del ICA en la Orinoquia (Carimagua) y de la Federación de Cafeteros en Chinchiná (Caldas).

Presentación de trabajos: enviar un resumen antes de junio 30 – 1.985. El Trabajo no debe sobrepasar 15 pág. a doble espacio y se debe entregar antes de su presentación. 

Informes: Dr. Francisco Silva M., Secretario Ejecutivo, A.A. 51791 Bogotá, Colombia

Israel Society of Soil Science

The Annual Meeting of the Society took place on October 19, 1983 at the Faculty of Agriculture of the Hebrew University and was attended by about 100 participants. Papers were presented on pedology, fertilizers, irrigation, and new instrumentation related to soil science. At a special session, an Honorary Membership was bestowed upon Prof. Shlomo Ravikovitch, one of the founders of soil science in Israel, and among the main contributors to the advancement of agricultural research and to the education to generations of scientists and agronomists. Until his retirement several years ago, Prof. Ravikovitch served as head of the Dept. of Soil Science of the Faculty of Agriculture, and prior to that as head to the Dept. of Soil Science of the Agricultural Research Station in Rehovot. This was the first time since the Society’s establishment in 1950 that such an honor has been bestowed.

Address of the Society secretariat: P.O. Box 6, Bet-Dagan 50–250, Israel
The Chilean and Ecuadorian Soil Science Societies were the coordinating national bodies and hosts of an international workshop on ‘Classification and Management of Andisols’, from 8th to 20th January 1984. It was the fifth in a series undertaken by the Soil Management Support Services (SMSS) programme of the USA Soil Conservation Service and USAID to improve the US ‘Soil Taxonomy’ system of classification (see earlier Bulletins for reports on the first five ones: Brazil 1977, Malaysia/Thailand 1978, Syria/Lebanon 1980, Rwanda 1981, Sudan 1982).

About 100 soil classification and management specialists participated in the event, which consisted of several days of presentation of papers and discussions, interspersed with extensive travels in the two countries to inspect a number of key ‘Andisol’ profiles on the basis of comprehensive descriptions and laboratory analyses. Arrangements by the two Societies were excellent, especially for the Chilean part of the workshop (its soil pits were prime examples on how major scientific soil excursions should be served!).

The workshop gave new impetus to an improved definition of ‘andic’ and ‘vitric’ properties and a meaningful classification of soils derived from volcanic ash, thanks to the efforts of the ICOMAND Committee of SMSS at large, and its New Zealand members in particular. The data presented, and the consensus attained, will undoubtedly be also of much use at the structuring of the Andosol group of soils in the efforts of the new ISSS Working Group on the elaboration of an International Reference Base for soil classification.

Details on the workshop and the eventual Proceedings can be obtained through:
Dr. F. Beinroth, Dept. of Agronomy and Soils, University of Puerto Rico, Mayaguez, Puerto Rico 00708, U.S.A.

Direction de la Sociedad Chilena de la Ciencia del Suelo: Casilla 1004, Santiago, Chile.

Dirección de la Sociedad Ecuatoriana de la Ciencia del Suelo: Apartado no. 9012, Quito, Ecuador.

Österreichische Bodenkundliche Gesellschaft (ÖBG)
Mitglieder des Vorstands 1984/85:
Präsident: Prof. Dr. W. E. H. Blum, Universität für Bodenkultur, Wien
Vize-Präsident: HR Dr. W. Kilian, Forstliche Bundesversuchsanstalt, Wien
Altpräsident: Doz. Dr. F. Solar, Universität für Bodenkultur, Wien
Generalsekretär: OR Dipl. Ing. P. Nelhiebel, Bundesanstalt für Bodenwirtschaft, Wien
Schatzmeister: OR Dr. E. Klaghofer, Bundesanstalt für Kulturtechnik und Bodenwasserhaushalt, Petzenkirchen
Schriftleiter: Doz. Dr. O. Nestroy, Universität Wien

Weitere Mitglieder des Vorstandes:
HR Prof. W. Beck, DOz. Dr. O. Danneberg, MR Dipl. Ing. A. Geßl, HR Dr. J. Gusenleitner, HR Dipl. Ing. H. Hacker, Prof. Dr. H. Mayr, Doz. Dr. H. Müller, HR Dr. F. Ornig, Prof. Dr. O. Pregl

Adresse des Sekretariats: Institut für Bodenforschung und Baugeologie, Universität für Bodenkultur, Gregor Mendel-Straße 33, A-1180 Wien/Austria.
APPOINTMENTS, HONOURS/NOMINATIONS, DISTINCTIONS
ERNENNUNGEN, AUSZEICHNUNGEN

Hinrich L. Bohn, soil chemist at the Univ. of Arizona; H. H. Cheng, soil biochemist at Washington State Univ.; Ben F. Hajek, soil classification-clay mineralogy specialist at Auburn University; Frederick P. Miller, specialist in soil and land uses at the Univ. of Arkansas; Francis S. Nakayama, soil physicist at Washington State Univ.; Felix N. Ponnamperuma, soil chemist at IRRI, the Philippines; Pedro A. Sanchez, specialist in tropical soil management at North Carolina State Univ.; Benno P. Warkentin, soil engineering specialist at Oregon State Univ., and Lucian W. Zelasny, soil mineralogist at Virginia Tech., are ISSS members elected Fellows of the American Society of Agronomy in 1983.

The Soil Survey of England and Wales has been awarded the John Bartholomew Award by the British Cartographic Society for its national soil map at scale 1:250,000 (see Book Review Section of Bulletin no. 64).

Hans Jenny, soil genesis specialist, was honored on the occasion of his 85th birthday with a symposium on 'The Soil in Perspective' at the University of California, Berkeley, U.S.A.

Nirma Tej Singh, professor of soil-water relationships at Punjab Agricultural University, India, received the Rafi Ahmed Kidwan Memorial Award, the highest national honour in agricultural research, awarded by the Indian Council of Agricultural Research.

Don Kirkham, professor in soil physics at Iowa State University, U.S.A., and Corne­llis T. de Wit, professor in theoretical production ecology at Wageningen University, the Netherlands, share the $100,000 Israeli Wolf Foundation Prize in Agriculture for 1983/84, for their innovative contributions to the quantitative understanding of soil-water and other environmental interactions influencing crop growth and yield.

M. J. Hedley, R. E. White and P. H. Nye of Oxford University, U.K., share the $10,000 Agronomy Prize of the Institut Mondial du Phosphate (IMPHOS) for their work on the chemistry of soil phosphate and the mechanism of phosphate uptake by plants.

THERE IS MONEY TO BE WON IN SOIL SCIENCE!
IN MEMORIAM

Professor F. R. Riecken (1908–1983)

Frank Frederick Riecken, professor emeritus of agronomy, Iowa State University, USA, died Sept. 11, 1983. He was 74.

Born Oct 4, 1908, at Girvin, Saskatchewan, Canada, he received his early education at Girvin and Saskatoon. He earned his B.S. (1930) and M.S. (1934) degrees in chemistry from the University of Saskatchewan. During the early 1930's he was employed in the provincial soil survey where his interest in soil science developed. In 1941 he earned his Ph.D. in soil chemistry and genesis at the University of Illinois.

He joined the staff of Iowa State University's Agronomy Department in 1942. During his career at Iowa State, Dr. Riecken made major contributions as a research scientist, project leader in soil morphology, genesis and classification; and was a noted authority in soil survey, classification and genesis. For several years Dr. Riecken was employed by FAO and seconded to the Government of Uruguay as a soil classification specialist.

Dr. Riecken was a Fellow of the Soil Science Society of America, American Society of Agronomy and Iowa Academy of Science. He was also an Honorary Member of the Soil Science Society of America and Professional Soil Classifiers of Iowa. In 1976 he received the Award of Merit from the Iowa Academy of Science.

Dr. A. Mehlich (1902–1983)

Adolf Mehlich, Emeritus member of the faculty of North Carolina State University, USA, and noted scientist in the field of soil chemistry and soil-test methodology at the Agronomic Division, North Carolina Department of Agriculture, died November 29, 1983.

Born July 15, 1902, in Lasswitz, Germany, he immigrated to the United States in 1926 and received his B.S., M.S., and Ph.D. degree from the University of Wisconsin in 1933, 1935 and 1936, respectively.

He began his career at the Boyce Thompson Institute of Plant Research in 1936 and moved to North Carolina State University in 1939. His twenty year association with North Carolina State University was interrupted by a five year (1948–53) association with North Carolina Department of Agriculture and a two year (1957–59) association with USAID in Kenya. For nine years (1960–69), Dr. Mehlich was employed by the Kenya Coffee Research Foundation where he divided his time between the Scott Laboratory (now National Agricultural Laboratories) and the Coffee Research Station at Jacaranda, Ruiru, Kenya. From 1970 until his death, Dr. Mehlich was a soil chemistry consultant with the Agronomic Division of the North Carolina Department of Agriculture.

Author or co-author of more than 65 scientific papers, his work on calcium availability and the pH-base saturation relationships as affected by the nature of the soil colloid provided the initial framework on which lime recommendations are based. A further impact was provided by his contribution relating the charge characterization of soils and minerals to soil classification. His development of soil methods and procedures have had a tremendous impact of agriculture in the Southeastern U.S. and in other areas of the world with similar soils. Newer developments in the field of methodology by Dr. Mehlich broadened the range of soils where factors limiting crop production can be identified.

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Prof. Emeritus Dr. L. De Leenheer (1912–1984)

Prof. Dr. Louis de Leenheer, former President of Commission I of the ISSS, died after a long illness on 26 March, 1984, almost three years after his retirement as Professor and Director of the Laboratory of Agricultural Soil Science, Faculty of Agricultural Science, State University of Ghent.

Prof. Em. L. De Leenheer was born in Flanders on 2nd February, 1912. He obtained his Ph.D in July 1934 from the State University of Ghent in mineralogy.

The highly gifted and hard working scholar was originally most interested in the minerals of Katanga in the former Belgian Congo, now Zaire. He received the golden metal of the Government in 1936 with a study on cobalt minerals from Shaba.

Only 26 years old he was appointed full-time docent at the former independent State Agricultural University Ghent, which in 1969 has been integrated as the Faculty of Agricultural Sciences in the State University of Ghent. In 1946 he received his nomination as professor and Director of the Laboratory of Agriculture Sciences, title which he conserved until his retirement in September 1981.

His original interest in general mineralogy gradually evolved towards the mineralogy of soil particles. Before the last world war he already undertook study trips to the Universities or research stations in Göttingen and Berlin, Bangor and Rothamsted, Versailles and Paris, Groningen and Wageningen. His knowledge as soil mineralogist, especially of the sandy fraction, was generally recognised; so he was invited to teach this discipline during the academic year 1961–1962 at Ames, Iowa State University.

A third evolution in his scientific thinking developed further from 1947 on, when he became more and more involved in the study of soil structure in its broadest sense. In that period his laboratory contributed also intensively to the Belgian Soil Survey, especially through the physical characterisation of the different soil types.

In 1950 he was co-founder of the Belgian Soil Science Society; he became member of the board and its president in 1956 and 1957. From 1950 until 1960 he was the Belgian representative at the ISSS and at the Madison International Soil Science Congress. In 1960 he became the president of Commission I.

His major research project started in 1960 and lasted until 1975 when he studied the evolution of soil structure on mechanised farms in the Belgian loess area. In 1977 his findings were written down in two volumes called ‘Structure et fertilité des sols limoneux sur fermes mécanisées (Structure and fertility of silty loess soils on mechanised farms). Also in 1960 he was co-founder and national secretary for Belgium of a working group which published ten year later a book, which did not loose anything of his interest, called: ‘West-European Methods on Soil Structure Determination’.

Prof. Dr. L. de Leenheer loved to travel and has visited many countries and attended many congresses. At the same time he had a sharp analytical sense and could formulate very clearly interesting observations. He published in total more than 200 papers. He has lived when soil science took its greatest expansion. He has been a leading personality. Not less than nine of his former students and collaborators became professors, either in Europe, in America or in Africa.

During the last three years of his life, he also imposed great admiration the way he carried his illness of which he knew its fate.

M. De Boodt, Ghent, Belgium
Seventy-five years ago

THE FIRST INTERNATIONAL CONFERENCE ON AGROGEOLOGY
April 14–24, 1909, Budapest, Hungary

International cooperation effectively furthers the development of every branch of natural sciences but for soil scientists – on account of the great variety of the soil cover of our planet – it is absolutely essential. Already in the 19th century scientists who studied soils were more or less aware of the work of their colleagues in different countries, but the first international meeting was organized in 1909. Although it was officially named the First International Conference on Agrogeology, it was actually the first conference on soil science, because at that time the two concepts were not yet separated.

The idea that an international meeting on this subject should be held was set forth by Hungarian, Russian and Rumanian scientists. The Royal Hungarian Geological Institute had a department of agrogeology, and its scientific staff played a key role in organizing the conference.

Apart from the opening and closing sessions, the program included seven scientific sessions. On the agenda we can find the most important pedological problems of those times. Glinka held a lecture on the soil zones and soil types of both the European and Asiatic parts of Russia. Murgoci discussed the soil zones of Rumania. Other papers – like that by Treitz – also represented the then widely accepted climazonal soil classification and soil mapping system. The Austrian Cornu’s paper dealt with
the role of soil colloids. The participants also discussed the methods of soil analyses, soil survey and soil mapping used in their respective countries.

During the closing session it was recommended that international meetings should be held regularly in the future, and the motion was carried. Even a list of persons to be invited – 63 scientists from 23 countries – was compiled.

The program included four study tours as well. Of these the one made in the Hungarian Plain was the most interesting; it provided an opportunity for the participants to see and discuss alluvial, salt affected and chernozem soil profiles. In the course of one of the excursions Ramann and Glinka identified a brown forest soil.

It is interesting to note that the participants were requested to define the concept of ‘soil’ in writing. Some of them interpreted it from a geological point of view, while others gave definitions which are acceptable even today. The most precise is probably the definition given by ‘Sigmond in German, which is as follows:

‘Der Boden ist jene geologisch jüngste und äusserste Kruste der Erdkugel, welche, als Ergebnis der verschiedenen bodenbildenden Faktoren, sich noch immer in einer steten Umbildung befindet und für die Pflanzenwelt jenen Wachstumsfaktor vertritt, welcher den Pflanzen die notwendige physikalische Stütze gibt, die Temperatur- und Wasserverhältnisse, wie auch die ganze Stoffaufnahme regelt’.

The Proceedings of the Conference was published in 1909 – the front page and the preface were in French, while the text was mainly in German, which had been agreed upon as the working language of the meeting – and the Hungarian edition appeared a year later.

It is not an overstatement to say, that the First International Conference on Agrogeology represents a milestone in the history of soil science because it initiated the organization of international meetings which eventually led to the founding of the International Society of Soil Science in 1924.

I. Szabolcs, Budapest, Hungary
Meetings etc. marked with *, are organized or sponsored by the ISSS
Réunions etc., indiquées avec *, sont organisées ou favorisées par l'AISS
Tagungen usw., angezeigt mit *, werden organisiert oder unterstützt von der IBG

1984


Seminar on Degradation, Retention and Dispersion of Pollutants in Groundwater, Copenhagen, Denmark, September 12-14, 1984 (IAWPRC).
*Information:* National Research Council of Canada, Ottawa, Ontario K1 A OR6 Canada or: ICSU Secretariat, 51 Boulevard de Montmorency, 75016 Paris, France.

*International Meeting on Classification and Management of Soils in Mountainous Regions,* Sofia, Bulgaria, September 24–29, 1984 (ISSS Commissions V and VI).  
*Information:* Organizing Committee, International Meeting Mountainous Soils, Shosse Bankya, P.O. Box 1369, 1080 Sofia, Bulgaria.

Symposium on Root Zone Limitations to Crop Production on Clay Soils, Griffith, N.S.W., Australia, September 25–27, 1984.  
*Information:* Dr. W. A. Muirhead, CSIRO Centre for Irrigation Research, P.M.B. Griffith, N.S.W. 2680, Australia.

*Information:* Dr. E. Klimo, Fac. of Forestry, Un. of Agriculture, 61300 Brno, Zemedelska 3, Czechoslovakia.

*Information:* J. J. Cook, Env. Res. Inst. of Michigan, P.O. Box 8618, Ann Arbor, Michigan, 48107 USA, or M. Garcia, Centre National d'Etudes Spatiales, 18, Av. Edouard Belin, 31055 Toulouse CEDEX.

*Information:* Conference Secretary, Univ. of Alaska, 117 Eielson Building, Fairbanks, Alaska 99701, USA.


*Information:* Prof. G. Lotti, c/o Inst. of Agric. Chemistry, Univ. of Pisa, Via S. Michele d. Scalzi 2, 56100, Pisa, Italy.

1st Regional Pan-American Conference on Irrigation and Drainage, Salvador, Bahia, Brazil, October 15–19, 1984.  
*Information:* Comité Nacional Brasileiro da ICID, Qudra 1, Bloco A, Ed. Minter, 4º Andar 70070 Brasilia, DF Brazil.

*Information:* Mr. I. Birkelund, Roskilde Univ. Centre, P.O. Box 260, DK-4000 Roskilde, Denmark.
Information: Dr. B. F. Beck, Coll. of Extended Studies, U. of Central Florida, Orlando, FL 32816, USA.

Information: Organizing Committee, c/o B. T. Kang/A. S. R. Juo, IITA, PMB 5320, Oyo Road, Ibadan, Nigeria.

Information: R. A. Briggs, 677 South Segoe Rd., Madison, Wisconsin 53711, USA.

Information: Prof. J. Hrasko, Dom techniky CSVTS, 1 oddelenie, Mardova 2, 043 23 Košice.

Information: Prof. Dr. K. J. Beek, ITC, P.O. Box 6, 7500 AA Enschede, Netherlands.

1985

Information: Hanico A. C. Jacomo, Tropicals 85, SDS, Ed. Venancio 3000, 12º andar, Bloco P, 70000 Brasilia, Brazil.

Information: Dr. M. A. Mulders, Dept. of Soil Science and Geology, Agricultural University, P.O. Box 37, 6700 AA Wageningen, the Netherlands.

Colloquium on Energy Flux at the Soil Atmosphere Interface, International Centre for Theoretical Physics, Trieste, Italy, May 5–9, 1985. 
Information: Dr. D. Gabriëls, Dept. of Soil Physics, State University of Ghent, Coupare links 653, B-9000 Ghent, Belgium.

Information: Dr. J. P. Abrol, Chairman ISSS Subcomm. A, Central Soil Salinity Research Institute, Karnal, Haryana, India. or: Prof. Shi Yuanchun, Dean of Post-graduate School of Beijing Agricultural University, Beijing, China.
*Information:* William R. Gill, Conference Coordinator, National Tillage Machinery Lab., P.O. Box 792, Auburn, AL 36831-0792, U.S.A.

*Information:* Dr. R. B. Clark, USDA-ARS, 101 KCR (Agronomy), Un. of Nebraska, Lincoln, NE 68583-0817.

*7th International Meeting on Soil Micromorphology,* Paris, France, July 8–12, 1985 (ISSS Subcommission B).
*Information:* N. Fedoroff, c/o INA P-G Dept. des Sols, 78850 Thiverval-Grignon, France.

Symposium on Potassium in Agriculture, Atlanta, Georgia, USA, July 8–10, 1985.
*Information:* D. Armstrong, Potash & Phosphate Inst., 2901 Buford Highway, N. E., Suite 401, Atlanta, GA 30329, USA.

*Information:* Prof. Dr. J. W. Ketcheson, University of Guelph, Ontario Agric. College, Dept. of Land Resource Science, Guelph, Ont. N1G 2W1, Canada.

*Information:* Dr. E. J. Udo, Dept. of Agronomy, Univ. of Ibadan, Ibadan, Nigeria.

*Information:* Dr. J. B. Dixon, Dept. of Soil Science and Crop Sciences, Texas A & M University, College Station, Texas 77843–2474, USA.

8th International Clay Conference, Denver, USA, July 28–August 2, 1985 (AIPEA).
*Information:* Organizing Committee, P.O. Box 25046, Mail Stop 917, Denver, Colorado 80225, USA.

International Conference on Science and Technology Education and Future Human Needs, Bangalore, India, August 8–15, 1985 (ICSU-CTS).
*Information:* J. L. Lewis, Malvern College, Malvern, Worcestershire WR14, UK.

*Informes:* Dr. Francisco Silva M., Secretario Ejecutivo. A. A. 51791 Bogota, Colombia.

*Information:* Dr. Eva Bakondi-Zamory, Centre of Plant Protection and Agrochemistry, Budapest, P.O. Box 127, 1502 Hungary.
*International Colloquium on Soil Zoology, Moscow, USSR, August 1985.  
*Information: Prof. M. Ghilarow, Morph. Evolution and Animal Ecology, Lenin Avenue 33, 117071 Moscow W-71, USSR.

*Information: A. I. Johnson, ICRSDT, 7474 Upham Court, Arvada, Colorado 80003, USA.

*Information: Prof. I. Douglas, School of Geography, Univ. of Manchester, M13 9PL, England, UK.

*Information: Dr. Ir. F. Callebaut, Department of Soil Physics, Faculty of Agricultural Sciences, University of Ghent, Coupure Links 653, 9000 Gent, Belgium.

*Information: Dr. G. P. Nabhan, Office of Arid Land Studies, University of Arizona, Tucson, Arizona 85721, USA.

*Information: Prof. Dr. S. Pia Sentis, Soc. Venezuela de la Ciencia del Suelo, Apartado 1208, Santa Rosa, Maracay, Venezuela.

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*Information: Prof. Dr. L. Pons, Dept. of Soil Sci. and Geology, Agric. Univ., P.O. Box 37, 6700 AA Wageningen, the Netherlands.

*International Symposium on Cerrado: Technology for Use and Management, Brasilia, Brazil, second half of March, 1986 (ISSS Commissions IV, V and VI, and Brazilian Society of Soil Science; earlier announced for 1985; see p. 15 this Bulletin).  
*Information: Dr. W. L. Goedert, EMBRAPA-CPAC, Caixa Postal 70/0023, CEP 73300 Planaltina, DF, Brazil.

M.Sc. Course in Soil Conservation, Institute of Irrigation Studies, University of Southampton, United Kingdom.

A 12-month course covering the disciplines involved in soil erosion and land reclamation. The course is designed to give students a sound knowledge of the physical, agricultural and socio-economic aspects of soil conservation.

Information: The Academic Registrar, The University, Southampton S09 5NH, U.K.

Six Week Training in Effective Management of Agricultural Research

Organised from August 27th to October 5th, 1984 by the Agricultural Research Institute of Ireland and DEVCO, the Irish State Agencies Development Cooperation Organisation. The participants will be senior agriculture research officials from developing countries. There is a three-week core programme common to all participants and a specialised supplementary programme tailored to individual requirements.

Enquiries to: Programme Organiser, DEVCO State Agencies Development Cooperation Organisation, Kildress House, Pembroke Row, Dublin 2, Ireland.


Contact: Office of International Geology. US Geological Survey, National Center (Mail Stop 917) Reston, VA 22092, U.S.A.

Post-graduate Training Course in Soil Science, Agricultural University of Norway, Aas-Norway

This 10½ months course, starting in August each year and open for candidates with B.Sc.Ag. or B.Sc. degree from developing countries, is aimed to provide theoretical and practical training in the field of soil science and is sponsored by the Norwegian Agency for International Development (NORAD) which provides fellowships to the students.

The course leads to a post-graduate diploma. NORAD, however, provides fellowships to students from East Africa for completion of M.Sc. degree at any recognised university in East Africa provided they have successfully completed the diploma course at Aas.

The course program covers a number of subjects, such as soil physics and management, soil fertility and plant nutrition, soil chemistry, soil survey, soil classification and soil resources, soil analysis, general and soil microbiology, soil and water engineering, radioisotopes techniques in soil and plant research, and statistics. The language of the course is English.

Information: Dr. B. R. Singh, Coordinator International Post-graduate Program in Soil Science, Box 28, 1432 Aas-NLH, Norway.

College of Soil Physics, International Centre for Theoretical Physics, Trieste, Italy. April 14-May 4, 1985.

The course is intended for students and professionals in the engineering, agricultural and environmental sciences. Some fellowships are available.

Information: Dr. D. Gabriëls, Dept. of Soil Physics, State University of Ghent, Couperus links 635, B-9000 Ghent, Belgium; Dr. E. Skidmore, Wind Erosion Research Unit, Kansas State University, Manhattan, Kansas 66506, U.S.A.

A one year course combining instruction in the techniques of soil and natural resources survey, land evaluation and land use planning. It is specifically geared to the needs of workers in developing countries.

*Information:* David Dent, School of Environmental Sciences, University of East Anglia, Norwich NR4 7TJ, England.


Three six-week courses in Soil and Plant Analysis are held annually in Reading, England during the summer (April-September). The courses are offered jointly by the Department of Soil Science, University of Reading (Professor Alan Wild) and the Tropical Soils Analysis Unit of the Land Resources Development Centre, ODA (Mr. Richard Baker).

The courses are aimed at giving experienced, practising analysts in soil science and plant nutrition greater understanding of the management of a modern agricultural analytical laboratory, including building design, sampling procedures, general and specific analytical techniques, simple instrument maintenance and interpretation of data. At least fifty per cent of the course will be spent on practical work and will include visits to agricultural laboratories of major commercial companies and research institutions. The fee will cover accommodation which will be in Halls of Residence at the University.

*Enquiries to:* Dr. A. A. Jones, Department of Soil Science, University of Reading, London Road, Reading, RG1 5AQ, England.

Study abroad. 2000 scholarships and courses worldwide (Unesco publication)

The 24th edition of Unesco's *Study Abroad* brings together a large number of details about international study programmes, scholarships, assistantships, travel grants, courses and seminars in schools, universities and international organizations in over 100 countries.

Information is given in all academic and professional fields such as the natural sciences and technology, the humanities, law, the social sciences, journalism, arts, communication and informatics. Background material is provided concerning admission procedures, language or age requirements, cost of living and housing in the host country, publications available on the topic, useful addresses and much more.

The volume lists international scholarships and courses. Three separate indexes, by country, by subject matter and by institution (including national and international organizations) refer the reader to the appropriate chapter.

*Study Abroad* is the basic reference book for all students interested in opportunities for further education and training available in all parts of the world.


*Orders to:* The Unesco Press, 7 Place de Fontenoy, 75700 Paris, France.
NEW PUBLICATIONS
NOUVELLES PUBLICATIONS
NEUE VERÖFFENTLICHUNGEN

Titles of new publications are listed here for information. Orders can not be handled by the ISSS Secretariat but should be placed through a bookstore or directly with the publishers. Nearly all publications mentioned can however be viewed at the seat of the Society, c/o the International Soil Reference and Information Centre (ISRIC) in Wageningen, the Netherlands.


This volume is concerned with the features of and the laws governing the occurrence of water in the interior of the Earth. A definition of hydrogeology as the science of the subsurface hydrosphere is given on the basis of modern concepts and developments. A review is given of the developments of the ideas in hydrogeology and the general concept of the hydrosphere. Special attention is paid to the origin of the water in the interior of the Earth, the manner in which it moves and its changes of state. The question of the circulation of water with its division into hydrogeological and ecological cycles is treated from the modern standpoint.

The laws which govern the distribution of groundwater are examined from the position of an understanding of the hydrogeological structure and the waterbearing systems. A new scheme for the classification of groundwater is given based on the manner in which it is deposited. The deep-lying water and subsurface water under the seas and oceans are examined together with the traditional subdivisions. The concluding sections are concerned with hydrogeothermics, the principles of hydrogeological zonation and the distribution of groundwater throughout the world. The book is written at a level suitable for senior undergraduate and graduate students and also provide valuable reviews for professional earth scientists. It is originally published in Russian in 1980.

Price: £ 22.50 or US$44.50.
Orders to: Cambridge University Press, the Pitt Bldg., Trumpington Street, Cambridge CB2 1RP, England; 32 East 57th Street, New York, NY 10022, U.S.A.; or; 296 Beaconsfield Parade, Middle Park, Melbourne 3206, Australia.


The scope of this series is rather wide, encompassing not only the biochemistry of pesticides but also toxicology-related subjects such as mode of action and environmental aspects: chemistry and effects.

In volume 3 two chapters are devoted to mode of action. Langcake, Kuhn and Wade cover this aspect for fungicides with systemic activity, whereas Dogle presents an overview of the primary sites of herbicide action.

The questions of how pesticides are metabolised are addressed in four chapters. Vonk reviews metabolic patterns for a great variety of fungicidal compounds. Cole discusses oxidative metabolism of xenobiotics in plants emphasizing the mechanisms underlying the transformation reactions. A third aspect of pesticide metabolism is covered by Mumma and Davidonis, who present a discussion on the use of plant tissue culture for studies of pesticide metabolism and for bioassay of new compounds. Soderlund, Sanborn and Lee, finally, survey the metabolism of pyrethrins and pyrethroids in insect. Both in vivo and in vitro studies are reviewed in great detail. These authors furthermore discuss the usefulness of such studies in assessing the effect of metabolism on biological activity, and present methods that can be used to supplement metabolism studies in such an assessment.

In two chapters technical aspects of metabolite studies are raised. The separation and purification of pesticide metabolites is reviewed by Muette. In addition to a discussion of the large array of chromatography techniques that may be used, attention is paid to more general methodological aspects of this refractory research area, including some pitfalls in isolation and purification procedures. An outline of the use of soft ionisation techniques in pesticide metabolite identification by mass spectrometry is presented by Games. After a short introduction into the chemistry of the various ionisation techniques a great number of applications is given demonstrating the usefulness of this newer development.

Price: £ 54.50.
Orders to: John Wiley & Sons Limited, Baffins Lane, Chicester, West Sussex, England, P019 1UD.

W. Welling, Wageningen

This is a translation of the Russian edition, published by Nauka, Moscow in 1976. The work describes the agrochemical properties of nitrogen fertilizers and the results of long-term experiments conducted in the Soviet Union and in some other countries. The book suggests some new laws governing the transformation of nitrogen in the fertilizer-soil-plant system. It also shows ways to increase the effectiveness of the application of nitrogen fertilizers.

Price: £11.50.
Orders to: J. K. Publishers, 23 Denne Road, Horsham, West Sussex RH12 1JF, England.


The main objective of this text is to provide concise information on vegetable crops grown in tropical regions. The details given are sufficiently comprehensive to enable specific vegetables to be introduced and grown successfully in areas where they have not previously been cultivated. The publication gives cultural and environmental requirements of about 140 crops and include climatic and soil requirements, propagation and establishment, crop density, soil fertility and irrigation. Data on pests and diseases are also given. The book has many illustrative drawings of crops, an index of species and an index of common names.

Price: £35.00 hardback; £15.00 paperback.
Orders to: Macmillan Distribution Ltd., Houndmills, Basingstoke, Hants. RG21 2XS, England.


This publication is a compilation of papers presented at the second workshop on this subject organized by the UN University. Six papers deal with residues of potential importance as animal feeds, and six with the application of fermentation technology to carbohydrate substrates to produce materials for possible human consumption. Other papers deal with alternative biological energy sources, the utilization of fish wastes, and biotechnology for rural communities. A separate discussion on biogas is included, as well as reports of working groups on cellulosic wastes, carbohydrate wastes, and other residues.

Price: US$ 9.00; airmail US$ 14.00
Orders to: Publications Section, United Nations University, Toho Seimei Bldg., 15-1, Shibuya 2-chome, Shibuya-ku, Tokyo 150, Japan, or to national distributors.


Although this book was not written primarily for agronomists and soil scientists it nevertheless contains a number of chapters that are useful to those interested in the manufacturing, the use and the environmental impacts of phosphatic fertilizers. Attention is being given to world phosphate rock production and resources, and to chemical evaluation and beneficiation of the ores. Such information is presented mainly for the benefit of those concerned with phosphoric acid production, but can also be enlightening to those interested in the direct uses of rock phosphates as fertilizers.

Of the three environmental hazards associated with the mining of phosphate ores and the production of phosphatic fertilizers, namely fluorine emission, gypsum disposal and cadmium accumulation in soils and crops, the book covers only the former two. The information supplied on these items is well worth reading.

Price: SFr. 253.-
Orders to: Marcel Dekker, Inc. 270 Madison Ave, New York, NY 10016, U.S.A.

A. van Dienst, Wageningen


This book is based on the texts of lectures and addresses by the author since 1971, but especially after 1978. It considers the role of science and technology in the amelioration of hunger and malnutrition, particularly in developing countries. This collection of articles deals specifically with the building of a national food security system; the conservation of plant and animal genetic resources; plant breeding approaches; research on crop improvement which includes wheat, rice, potato, oilseeds and fibres; and the role of nuclear techniques in agricultural research. In the second half of the book the author, who is Director General of IRRI since 1982, makes a survey of trends in agriculture in the tropics and agricultural evolution in India.

The book contains a wealth of information and data relating to crops, cropping patterns and rotation, nuclear techniques in agriculture, and conservation of plant and animal genetic resources.

Price: US$ 32.00
Orders to: Concept Publ. Comp., H-13 Bali Nagar, New Delhi 110 015, India.
New Trends in Soil Biology. Ph. Lebrun, H. M. André, A. de Medts, C. Grégoire-Wibo and G. Wauthy, Editors, Univ. Catholique de Louvain, Louvain-la-Neuve, 1983, 709 p. This publication contains the papers presented at the 8th International Colloquium of Soil Zoology, held in Louvain-la-Neuve, August-September 1982. It is well-known that soil fauna and microorganisms greatly influence potential fertility and plant production and contribute substantially to the cycling of macronutrients and trace elements. Organized regularly for more than 25 years, the 8th colloquium was attended by more than 200 scientists from 38 countries. They contributed 56 papers and 90 posters on soil biology, highlighting new aspects such as the role of soil fauna in nutrient cycling, causal ecophysiology and the restoration capacities of soil communities, whether influenced by man or not.

This publication is of obvious interest to zoologists and ecologists and it should also appeal to a wide audience of agronomists, pedologists, microbiologists, as well as to those working on natural resources management and land restoration.

Price: BF 4000.

Orders to: Prof. Ph. Lebrun, Ecologie Animale, Place Croix du Sud 5, B-1348 Louvain-la-Neuve, Belgium.


Agricultural research in tropical America, and particularly in the Caribbean, often does not adjust to the farming systems and technological priority needs of the farmers. Additionally serious conceptual and methodological deficiencies can be noted where research efforts are intended to back or stimulate regional agricultural development.

Aiming at the improvement of agricultural research in the Caribbean, the Institut National de Recherches Agronomiques (INRA) of France, in cooperation with the Inter-American Institute for Cooperation on Agriculture (IICA) decided to organize this Seminar.

The objectives were to: (1) provide a multidisciplinary forum for the discussion, revision and diffusion of technical criteria and methodological processes about farming systems research; (2) broaden and deepen the perception of research leaders in the Caribbean regarding the inter-relations among the physical, biological, economical and sociological components of farming systems; and (3) lead to the adjustment and increase relevance of agricultural research to the farming systems and technological priority needs of farmers, especially the small producers in the Caribbean.

The Seminar was attended by more than 120 agricultural professionals and development leaders from 21 countries and over 30 institutions within and outside the Caribbean. The thirty-four papers in the proceedings cover both theoretical and actual case studies on concepts and methodological approaches in farming systems research. They are partly in French, English and Spanish.

Orders to: Inter American Institute for Cooperation on Agriculture (IICA), San José, Costa Rica.


The author, who is Chairman of the Working Group on Desertification of the ISSS, focuses in this book his attention on man-made desertification, the processes involved, indicators, causes and control, and the worldwide severity of the problem.

The effect of urban development, mining, tourism, recreation, and woodcutting on the degradation of land resources is described, as well as the effect of agricultural practices. Impediments to the implementation of desertification control measures are discussed, including this socioeconomic factors as well as the technical factors. An assessment is made of the progress to date in combating desertification.

Price: USS 33.25.

Orders to: Harwood Academic Publishers, P.O. Box 786, Cooper Station, New York, NY 10276, U.S.A.; 42 William IV Street, London WC2N 4DE, England; or: Poststrasse 22, 7000 Chur, Switzerland.


This compact reference book is intended for all geomorphologists and others carrying out geomorphological work in the field. Designed to complement the British Geomorphological Research Group's volume Geomorphological techniques (edited by Andrew Goudie), it incorporates a wealth of reference material - keys, monograms, tables, charts - likely to be needed in the field for actual fieldwork and such preliminary analysis as is often done during extended periods of work away from base. The widest possible coverage of materials is provided in anticipation of problems that individual specialists will encounter on the periphery of their main areas of interest.

Complete with many illustrations and bibliographic references, and in a format suitable for field use, this book should provide an indispensable companion to students and scientists undertaking geomorphological fieldwork. For soil scientists interested in enlarging their knowledge on geomorphology, this book will provide a suitable basis for more standardized data acquisition.

Price: £ 7.95.

Orders to: George Allen & Unwin, Park Lane, Hemel Hemstead, Herts, HP2 4TE, U.K.; or: 9 Winchester Terrace, Winchester, MA 01890, U.S.A.

En Afrique occidentale des surfaces importantes du vieux continent sont enfouies sous une couverture pédologique kaolinitique, monotonie du point de vue minéralogique. Ces couvertures sont très anciennes puisqu’il faut 20,000 à 100,000 ans, selon les auteurs, pour que se réalise la kaolinisation complète d’un mètre de granite. Or actuellement, le fonctionnement de la partie supérieure des profils pédologiques (ainsi d’ailleurs que le paysage tout entier) est en relation étroite avec le bioclimat. En particulier, les profils des sols ferrallitiques sont homogènes et le drainage vertical est abondant dans la zone forestière subéquatoriale. Par contre, les profils des sols ferrugineux tropicaux sont contrastés, la drainage profond est réduit et le ruissellement important dans la zone des savanes soudano-sahéliennes à climat tropical sec. De plus, des enquêtes ont montré que l’aménagement a des fins agricoles de ces sols tropicaux entraîne des modifications profondes des matières organiques et de la structure, de la dynamique de l’eau et des transferts de matières. Sans vouloir nier l’importance de l’héritage historique sur la maturation de l’épaisse couverture pédologique, une démarche expérimentale a été tentée sur le terrain, visant à quantifier les différents éléments du bilan de matières (eau, solubles, solides) en milieu naturel ou cultivé, dans le but de préciser l’influence pédologique, une démarche expérimentale a été tentée sur le terrain, visant à quantifier les différents éléments du bilan de matières (eau, solubles, solides) en milieu naturel ou cultivé, dans le but de préciser l’influence pédologique, une démarche expérimentale a été tentée sur le terrain, visant à quantifier les différents éléments du bilan de matières (eau, solubles, solides) en milieu naturel ou cultivé, dans le but de préciser l’influence pédologique, une démarche expérimentale a été tentée sur le terrain, visant à quantifier les différents éléments du bilan de matières (eau, solubles, solides) en milieu naturel ou cultivé, dans le but de préciser l’influence 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The present manual is the result of a resolution adopted at the 7th Congress of the ISSS. It has been compiled by groups of soil scientists from Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, Poland, Rumania and the U.S.S.R. The publication contains a large number of methods for studying soil structure and for determining related chemical and physical properties for soils. With very few exceptions, the methods are confined to those developed over the years in these countries.

This useful collection presents under a single cover numerous articles, which are otherwise available only with great difficulty.

Price: £15.00.

Orders to: J. K. Publishers, 23 Denne Road, Horsham, West Sussex RH12 1JF, England.


These two volumes comprise the papers presented at an international symposium convened by Unesco in cooperation with the National Committee of the Fed. Rep. of Germany for the International Hydrological Programme and held in Koblenz, August-September 1983.

Groundwater is indispensable for water supply. However, groundwater resources are often subject to overdevelopment and to impairments in quality. The Symposium provides specialists in the fields of science, engineering, operations and management with the opportunity to discuss questions, problems and results of studies that arise from the restrictions, shortage and endangering of ground-water resources and that represent essential fundamentals of water resources planning.

The first two volumes announced here comprise the papers submitted. These have been classified into the six subjects of the Symposium: Importance of ground water in different regions (18 papers); economical, social and institutional aspects, practicability of planning concepts (7 papers); technical base for planning (23 papers); multiple demand and conflicts (10 papers); planning and management (24 papers); hazards for and protection of the ground water (21 papers). In a third volume, available separately, the inaugural addresses of the Symposium and the reports of the general reporters are published.


Despite 50 years of federal effort to control soil erosion and despite the expenditure of many billions of dollars, the loss of fertile topsoil remains a major conservation problem in America. Although significant erosion occurs on only a small portion of the nation's total cropland, some of the most critical erosion problems are found in important agricultural areas. For years, cheap energy, extensive irrigation, and increasing amounts of fertilizers kept crop yields high, masking the effects of erosion. Today awareness is growing that unless soil losses are reduced to tolerable levels, crop yields may decline and food production costs may rise, and the pollution of the nation's waterways from agricultural runoff will continue unabated.

This concise and well-formulated book documents the renewed concern over soil erosion in America. What is happening? Where? Why? And why does it matter? It reports what researchers have documented and what they suspect about erosion, and it concludes that cost-effective solutions are available to help curb soil losses. The book discusses the nature and extent of the soil erosion problem, effects of erosion, techniques for reducing soil erosion, as well as factors affecting farmers adoption of conservation practices. It also critiques current conservation programmes and policies in the U.S.A. and analyses techniques and strategies for reducing soil losses. An appendix discusses measuring soil eroding.

The author's main conclusion is that soil erosion in the U.S.A. is an important environmental problem and needs a more integrated approach, but a direct danger for food supplies does not exist.

Price: US$ 8.50, prepayment required.


This monograph, prepared by Walter Luzio Leighton and a Working Group, is a partial translation of Agriculture Handbook No. 436, Soil Taxonomy. It contains the diagnostic horizons and properties and the keys for the identification up to family level. The chapter on family differentiae is not included, however.

Orders to: Program Leader SMSS, Soil Conservation Service, P.O. Box 2890, Washington, DC 20013, U.S.A.

These are the proceedings of a symposium held during the 18th General Assembly of the International Union of Geodesy and Geophysics at Hamburg, August 1983, and discusses aspects of tropical cyclones and the hydrological effects of agriculture and forestry practice in the humid tropics.

In the last decades hydrological science has focussed attention on the arid zones rather than on the humid tropical areas, stressing the improvement and protection of water supply in the arid areas of the earth and the use of irrigation to improve food supply. Many hydrologists assumed that water resources in the humid tropical areas were sufficient to cause no hydrological problems. There is therefore little hydrological knowledge about humid tropical regions. However, man has radically interfered with the natural vegetation and ecology of the tropics in recent years in order to develop and cultivate these regions. How has this affected the ecology and in particular the hydrological processes? Unesco and WMO have therefore intensified their activities in the humid tropical regions within the scope of the International Hydrological Programme and the Operational Hydrological Programme. The Hamburg Symposium is a contribution to these activities. The principal questions discussed were whether there is a difference between the hydrology of the tropics and the hydrology of temperate regions, and whether the methods developed for temperate climates can be directly transferred to humid tropical regions.

The first group of papers in the present volume deals with hydrological aspects of tropical cyclones. The second group presents hydrological effects of agriculture and forestry practices on a regional basis.

Price: US$ 37.00.


This volume contains the proceedings of the Meetings of Commissions III and IV of the ISSS, jointly with the British Society of Soil Science, Reading, July 1983. The success of shifting cultivation systems developed by subsistence farmers testifies to the resilience of the 'natural' soil-plant ecosystems to recover from the offtake of nutrients in crops and loss of soil structure. By contrast, the development of intensive cropping systems requires large inputs, especially of nitrogen, together with phosphorus, sulphur and other essential elements in order to maintain the nutrient levels needed for abundant crop yields.

The meeting focused its attention on the best way of conserving soil under extensive-intensive cultivation systems. The 35 papers presented in the publication cover the major activities of the myriad organisms that inhabit soils and variously influence their fertility under differing environments, from the dry fallow wheatlands of Colorado to the paddy fields of Japan and from the arable land of Finland to the grazed pastures of New Zealand.

One of the major themes of the conference was 'Biomass' - the total body of living tissue external to the roots, embracing the smaller soil fauna and multivariable microflora involved in aerobic and anaerobic, autotrophic and heterotrophic, autochthonous and zymogenous, chemotropic and phylotrophic processes in soils.

The efficiency of utilization of nitrogen in the fertilizers so widely used to boost crop yields is one of the subjects receiving much attention. Another is the environmental consequences of losses sustained under field conditions through solution in drainage water or diffusion in gaseous form.

Other papers deal with the dynamics and modelling of organic carbon, nitrogen and phosphorus in soils, the biological benefits to soil structure, and the effects of crop protection chemicals on soil biota.

Price: US$ 69.00 or Dfl. 180.00.

Orders to: In U.S.A. and Canada: Kluwer, 190 Old Derby Street, Hingham, MA 02043, U.S.A. Elsewhere: Kluwer, Distribution Center, P.O. Box 322, 3300 AH Dordrecht, the Netherlands.


There is an increasing interest in alteration-weathering processes and the deposits formed by the mobilization and re-distribution of elements under these processes.

The present volume, in co-operation with the Board of ICSOBA (International Committee for the Study of Bauxites, Alumina, Aluminium), is an international effort on leaching and diffusion in rocks and their alteration-weathering products.

A number of original contributions deal extensively and present new research work on each of the following major fields: reaction-kinetics (4 papers); leaching and diffusion in rocks (4 papers); alteration processes; weathering processes and products (e.g. bauxites, laterites) (9 papers); leaching and diffusion in soils (5 papers).

Price: US$ 35.00.

Orders to: Theophrastus Publications S.A., 33 J. Theologou Street, Zographou, Athens, Greece.

Almost one third of our planet is made up of zones with varying degrees of aridity. The origin, structure and dynamics of the arid systems are as diverse as the effects of man's activities upon these systems. These arid systems are shared by around 50 countries, with partly very different environmental conditions. The development policies and the strategies for the utilization of natural resources present a wide range of manifestations. In some countries large, well-organized resource projects with a high science and technology content are carried out, while in many others, less fortunate, countries the economic space completely coincides with intensely arid zones, where sometimes dramatic droughts accelerate desertification.

The dynamics of arid systems are the product and origin of the low availability of renewable resources – water, soil, flora and fauna – which leads to a low primary productivity of their ecosystems, or, in other words, a reduced capacity to fix, through basic biological mechanisms, the solar energy required for the organization of the ecosystem.

Modern science has notably increased the stock of knowledge about renewable resources and arid ecosystems but a great part of this knowledge is still to be used. Technological development has opened up new opportunities for increasing the availability and sustainability of renewable resources but there are many problems in the transfer and utilization of this technology. Despite its abundance, much of this knowledge and technology is difficult to integrate into the development of numerous arid regions, where the fragility of their natural environment associates with the lack of experience and institutional capacity to diffuse new technologies and to promote the innovations necessary for the integral management of natural resources. The increasing complexity of the human activities and the development needs in marginal regions require new tools, as well as science and technology, to assist in the integral and sustained management of these resources.

This Westview Special Studies in Natural Resources and Energy Management contains the papers presented at the conference 'Renewable Resources and Regional Development: The Case of the Semi-Arid Zones', held in Cocoyoc, October 1980. The 21 papers try to integrate various perspectives on the evaluation of natural resources in arid and semi-arid zones, analyze development options, and put emphasis on systems analysis tools that could be important for the management of technology.

Price: US$ 34.50.


These publications are based on papers presented at the conference 'Ecology in Practice – Establishing a Scientific Basis for Land Management', held in Paris, 22-29 September 1981 and organized by Unesco and ICSU to mark ten years of the Man and Biosphere (MAB) Programme of Unesco.

The sixty-one contributions in this two-volume book illustrate how a certain approach to land use problems – involving planners, local population and scientists from a range of disciplines – can be made to work in different regions of the world, given the right mix of ingredients and the necessary good will on the part of all concerned.

Part 1, Ecosystem Management, deals with issues of man's use of the biosphere likely to remain among the major land use preoccupation in the next two decades; the search for sustained production systems in the humid and subhumid tropics; developing a scientific basis for managing grazing and marginal lands; providing a better basis for conserving ecosystems and genetic diversity. Each section comprises an introduction, a review and evaluation paper; two or three papers on selected issues, about six case studies on experience gained in particular geographical situations. These examples include case studies on humid tropical ecosystems in Indonesia and Venezuela, on islands in the Pacific and Caribbean, on arid lands in Tunisia and Kenya, on mountains in Chile and New Zealand, on conservation in China, Czechoslovakia, India, USA, USSR.

Part 2, The Social Response, deals with some key aspects of society's response to current problems relating to environmental relationships and use of natural resources. The first of three sections deals with ecological approaches for improving the planning of urban systems, those areas where a rising proportion of the world's population is concentrated. The next sections are concerned with the use of scientific information for environmental education purposes and with providing the types of information needed for decision-making on land management. They thus provide a bridge between ecological research on the one hand and education and decision-making on the other.

This publication will prove to be of great interest to those concerned with the application of approaches and techniques of ecological research to the needs of land use planning and resource management.

Price: US$ 120.00 boxed library edition.

Orders to: Tycooly International Publishing, 6, Crofton Terrace, Dun Laoghaire, Co. Dublin, Ireland.
The papers are from the second workshop of IWGSUSM organized in 1981 at the University of Poitiers, France, the symposium on 'Submicroscopy of Undisturbed Soil Materials' organized in 1981 in Atlanta, Georgia, and work done in 1982. The papers mainly concern in situ electron microscopic studies of materials in thin sections of soils and of unimpregnated soil constituents in peds. Ion microscopy is discussed in one paper.

The present volume gives various technical papers and practical applications of submicroscopy in soil science. Some papers discuss purely submicroscopic subjects, whereas submicroscopy is used in other papers as one of a number of techniques.

Most submicroscopic studies start by using the light microscope to investigate soil constituents in thin sections and unhardened soil peds. Such work is usually done by soil micromorphologists and specialists in, for example, soil mechanics. Soil physicists are attracted by this type of in situ work because by using the combination of light microscopy and submicroscopy it can be seen where transported soil particles have been deposited in the soil profile -- especially under controlled experimental conditions -- and data on very fine and larger pores (voids) can be collected by using an image analyzer to study the porosity in micrographs obtained by light microscopy and electron microscopy. The soil chemist, who usually works with wet chemistry and disturbed bulk samples, is attracted by the in situ microchemical results obtained from dry samples by various submicroscopic techniques. Amorphous, poorly crystalline and clayey materials in thin sections will usually be of interest for the microanalysis of chemical elements.

Submicroscopy is a young field of soil science which can help different specializations by giving various types of in situ information. IWGSUSM was an independent organization until the end of 1982 and forms part of the Subcommission on Soil Micromorphology of the International Society of Soil Science since 1983.

Price: USS 87.25 in U.S.A. and Canada, Dfl. 205.00 elsewhere
Orders to: In U.S.A. and Canada: Elsevier, P.O. Box 1663, Grand Central Station, New York, NY 10163.
U.S.A. Elsewhere: Elsevier, P.O. Box 211, 1000 AE Amsterdam, the Netherlands.


The influence of organic soil layers on the propagation of sound through vegetations was investigated both theoretically and experimentally. A comparison was made between different existing models of outdoor sound propagation and between models describing the acoustical properties of soils. Specific acoustic impedances were measured as a function of sound frequency (between 200 and 1600 Hz) for several forest floors, grasscovered sandy plains and barren sandy plains. These impedances were derived from the sound interference patterns, measured with an inclined track array of microphones.

Price: Dfl. 20.00 or USS 7.00.
Orders to: Dr. L. A. M. van der Heijden, Pudoc, P.O. Box 4, 6700 AA Wageningen, the Netherlands.


This bibliography contains abstracts of 1900 publications covering original research papers, review articles, books, bulletins, monographs, bibliographies, and papers from proceedings of seminars, symposia and transactions of congresses etc., related to salt affected soils and water quality research work conducted in India and published between 1901 and 1983 in Indian and foreign journals. The abstracts have been arranged alphabetically by name of author(s), followed by title of the paper, name of the journal, year of publication, volume of the journal and pages. In addition the bibliography also includes abstracts of seven historically important publications of the nineteenth century.

The book contains subject indexes: a general and one on plants. In addition, it includes an author index and a source index. This bibliography is an updated version of 'A Century of Soil Salinity Research In India, 1963-1976', published in 1978. This compilation on research work conducted in a country on a specific subject of vital importance to the economy, is also of interest to scientists interested in the management of salt-affected soils and the utilization of saline water for irrigation.

Price: USS 70.00.
Orders to: Concept Publ. Comp., H-13 Bali Nagar, New Delhi-110 015, India.


This symposium was also sponsored by the ISSS. The publication contains abstracts of the 235 papers presented, all in English and in Russian. Copies are available free of charge, for exchange.

Requests to: Prof. B. Novák, Research Inst. of Crop Production, 16106 Prague-Ruzyně, Czechoslovakia.

The need for a process-oriented text suitable as a reference for pedologists, allied earth scientists and teaching students is recognized, especially with the increasing worldwide use of the USDA soil classification system Soil Taxonomy. Because Soil Taxonomy is a morphogenetic system in which morphology serves as the marker of genesis, it is essential that genetic processes be emphasized in pedological instruction and application of Soil Taxonomy. Thus, the purpose of these text books is to provide a balance between morphology and genesis in understanding and utilizing this comprehensive soil classification system.

The subject matter in the first volumes serves as a prelude for the companion text on Soil Orders and is equally relevant to disciplines outside pedology. The topics covered in the nine chapters are pervasive to all soils and yet are often underemphasized in previous pedology texts. In the first two chapters, the historical development which formed a framework leading to Soil Taxonomy are explored. This is followed by chapters covering the nature of soil-forming processes, the relationship between soil-forming processes and more basic sciences, the incorporation of soil-forming processes into models, and the composition and spatial variability of soils in landscape settings.

This text serves as a process-oriented book to elucidate the relationship between class criteria employed for Soil Taxonomy and pedogenic processes responsible for the morphological markers observed. The chapters in the second volume are organized by the 10 soil orders in Soil Taxonomy. They are arrayed from the first chapter covering organic soils to successive chapters of mineral soils in order of increasing pedological development.

New horizon nomenclature used is patterned after the one published in the FAO-Unesco Soil Map of the World. It has been modified from this system for inclusion in the new Soil Survey Manual. Symbols and definitions are enclosed in the Glossary section for reference purpose. Both volumes have been dedicated to the late Dr. Guy D. Smith.

Prices. Vol. I: US$ 44.25 or Dfl 115.00; Vol. II: US$ 50.00 or Dfl 130.00.

Orders to: In U.S.A. and Canada: Elsevier Science Publ. Comp., P.O. Box 1663, Grand Central Station, New York, NY 10163, U.S.A. Elsewhere: Elsevier Science Publ., P.O. Box 211, 1000 AE Amsterdam, the Netherlands.


This pocket-size publication, prepared by the Agronomy Department, Cornell University, provides the taxonomic keys required for the classification of a soil in a form that can be used easily in the field, and it serves as a means of providing an up-to-date edition of Soil Taxonomy that includes all revisions that have been approved. Much of the explanatory text of the 1975 edition of Soil Taxonomy has been eliminated to facilitate that use of the keys in the field. The publication contains the descriptions of horizons and properties, the family differentiae and the keys up to family level.

Price: $8.00.

Orders to: SMSS Program Leader, SCS, P.O. Box 2890, Washington, DC 20013, U.S.A.


This interesting booklet has been compiled from a series of articles which originally appeared in New Zealand Soil News and then in Soil Survey Horizons, and in Soil Taxonomy News. The N.Z. Soil News articles are composed of questions about Soil Taxonomy from Dr. Michael Leamy, with answers by Dr. Guy D. Smith. The reprint of these articles should prove useful for soil scientists and others concerned with processes and rationale used in establishing Soil Taxonomy parameters for the diagnostic horizons, climate regimes, and categories. The articles were compiled by Terry D. Cook.

Price: US$ 4.00 including postage, prepayment required.

Orders to: Book Order Dept., Soil Science Society of America, 677 South Segoe Road, Madison, Wisconsin 53711, U.S.A.


This volume contains papers presented at the Geological Society in March 1982, plus three additional contributions. The meeting brought together earth scientists with interests in geomorphology, geochemistry, pedology, sedimentology and applied geology.

The multidisciplinary approach to the study of residual deposits is reflected in the twenty-five chapters of the book, which are arranged in four main groups: weathering processes (3 papers); kaolinites, laterites and bauxites (8 papers); red beds (3 papers); duricrusts: calcretes, silcretes and gypcretes (11 papers). The volume is published as Geological Society of London Special Publication No. 11.

Price: £25.00.


The Australian Development Assistance Bureau (ADAB) has, for some years, given support for a series of meetings called ‘Research for Development Seminars’. The purpose of these meetings is to bring together experts from developing and developed countries to investigate the state of knowledge and research needs in particular subject areas.

ADAB has been joined by the Sulphur Institute, Washington, in sponsoring one such seminar titled ‘Sulfur in South-East Asian and South Pacific Agriculture’. This meeting was held at Ciaawi, Indonesia, in May 1983. It brought together scientists from fifteen countries to discuss the problem of sulfur research in the region.

This volume is a record of the proceedings of the meeting and should be of great value to scientists and planners concerned with development in the S.E. Asian and South Pacific region. The research recommendations of four working parties presented at the end of the proceedings should be of particular interest. The working parties discussed regional research needs, soils, plants and animals.

Orders to: The Seminar Secretary, Dept. Agronomy and Soil Science, University of New England, Armidale, NSW 2351, Australia.


This publication contains the papers presented at the International Council for Research in Agroforestry (ICRAF) BAT Workshop held in Nairobi in September 1982. Section 1, with 3 papers, deals with papers giving a general introduction to agroforestry, including ICRAF’s programme of work and methodology for deriving appropriate agroforestry research and development. Section 2, with 9 papers, presents selected agroforestry topics ranging from the availability of tree seed resources to aspects of shelterbelt planning. Section 3 contains five country papers dealing with the supply and demand of energy for tobacco curing. In section 4, three case studies of tobacco-growing areas in Kenya are presented. The appendices give information on field trips to Kiambu and Machakos districts.

Orders to: ICRAF, P.O. Box 30667, Nairobi, Kenya.


The Green Revolution, once heralded as the solution to the world's food problems, has not lived up to expectations. Though it has helped to feed a larger world population, its 'super crops' are more vulnerable to climate fluctuations, are not easily transferred from one ecozone to another, are more dependent on capital- and energy-intensive inputs, and do not reach much of the Third World population they were intended to benefit. The challenge remains: to increase and stabilize world food production while preserving our resource base and distributing our wealth.

This book presents information about agroclimate models aimed at reviving the Green Revolution and at making its achievements more appropriate to the needs of Third World agriculture, farmers, climates, and ecosystems. Agroclimate models, with the aid of computers, simulate the dynamics of natural systems that affect crop production. Over the last decade there have been extraordinary scientific advances in the modeling of natural and human productive systems, enhanced by the application of advanced computer technologies that have made it possible to organize and interpret vast quantities of weather, environmental, and agricultural data. Only recently have these developments come together in a way that can be effectively mobilized to serve development. The Interamerican Symposium on Agroclimatic Models and Information Systems and this book – an outgrowth of the conference – are major steps in the mobilization effort. This interesting publication is also available in Spanish.


Radioactivity is released in effluents from nuclear power plants and their supporting fuel cycle facilities. Methods have been developed by which the radiological impact on man of these releases can be assessed. These methods rely on data from field and laboratory studies concerned with radionuclide and stable element distribution and transport in both terrestrial and aquatic ecosystems. The data from these studies have been published in a wide range of journals and reports from research institutions over a period of several decades. The present work presents a systematic and critical review of the data and gives guidelines for their use in assessments of the impacts of routine releases of radioactive effluents.

The elements reviewed all have radioactive isotopes which could contribute significantly to the radiological impact of chronic releases of radioactivity from nuclear installations within the countries of the European Community, i.e. the major activation and fission products. In dividing these elements between volumes
an effort has been made to take account of the method of production of their major radioisotopes, together with their chemical similarities and environmental interactions. Thus, volume 1 contains the major fission products, volume 2 contains the major metallic activation products and volume 3 contains a mixture of activation and fission products which are either major metabolites or which interact strongly with major metabolites. Volumes 4 and 5 deal with actinide elements and volume 6 is a compendium summarising the important data for each element. These will become available in 1984–85.

Not all elements of interest are included in this review. In particular, hydrogen and carbon (of interest because of H-3 and C-14) are excluded. Reviews of the environmental transport of these two elements would probably require a set of volumes at least as large as those already produced. In reviewing the subject areas, account has been taken not only of the literature relating to specific radionuclides, but also of the literature relating to the stable element of which they are radioisotopes.

The chapters on the single elements are divided into four sections, dealing respectively with the chemistry, distribution and transport of the element in parent materials and soils; the uptake and distribution of the element in plants; metabolism in domestic animals and man; and the behaviour of the element in aquatic environments. Each of these sections includes, or concludes with, recommendations for particular model parameters. For soils, plants and aquatic systems these take the form of concentration ratios, or of the fraction of the element or radionuclide which is likely to be associated with one particular component of the system. Thus, the case of plants, uptake from soil is represented by the ratio of concentration in plant to concentration in the soil, but the distribution within the plant may be expressed as the fractions of the uptake in the various plant parts.

The scope and detail of the volumes in this series is such that it is likely to become a standard reference work for those who are concerned with the study and regulation of radioactivity in the environment. It will also be a useful source of data for those concerned with the distribution and transport of a variety of stable environmental pollutants.


Orders to: A. A. Balkema Publ., P.O. Box 1675, 3000 BR Rotterdam, the Netherlands. In U.S.A. and Canada: A. A. Balkema Publ., P.O. Box 230, Accord, MA 02018, U.S.A.


This book is not meant to be ‘just another textbook’ on soil physics. Instead, it presents a different approach to teaching students the basic principles of soil physics. The main idea is that students should be forced to think through and apply immediately what they read. To achieve this goal, the text is written mostly in rather short paragraphs and is alternated with questions. Many questions are an integral part of the transfer of knowledge; these, in particular, should be answered by the student before the continuity.

The student can check his answers with those given at the end of each chapter.

The book is meant to be a first introduction in soil physics, but students who already have some knowledge in this area may also benefit from working through it. It presents a rigorous, complete and consistent treatment of the definitions and relationships for the fundamental physical processes occurring in soil. In addition, it gives detailed descriptions and solutions of most elementary problems encountered in the realm of soil physics. The treatment normally involves many simplifications, such as homogeneous soil, isothermal conditions, isotropy, etc. At the end of each chapter a list of recommended literature for further study is given.

After a general description of the composition and physical/chemical properties of soils, the concepts of forces, force fields, equilibria and potentials are introduced, which are then used to describe hydrostatic equilibrium in the gravitational field and define the components of the hydraulic potential in three equivalent forms. Static equilibrium of soil water and soil systems is then discussed and an elementary description of the binding of water in a capillary is used to explain capillary binding of water in soils. Osmotic binding of water and the various components of the soil water potential in the double layer and in the vapour phase are also described and the working principles of apparatus for measuring hydraulic potentials and pF-curves are explained in detail. Based on the concepts developed in the first part of the book, the authors then present general concepts of transport processes in soils showing the basic similarities between transport of water, gas and heat, while the final chapters treat each of these three processes in detail. The elementary treatment and the inclusion of a total of 235 questions and detailed answers make this book particularly suitable for self-study and rapid reference.

Price: USS 32.00 (in U.S.A. and Canada); Dfl. 75.00 elsewhere.

Orders to: In U.S.A. and Canada: Elsevier Science Publ. Comp., P.O. Box 1663, Grand Central Station, New York, NY 10163, U.S.A. Elsewhere: Elsevier Science Publ., P.O. Box 211, 1000 AE Amsterdam, the Netherlands.

This publication contains the papers presented at a workshop held at Stevenage, May 1982. Continuing extension of sewage treatment in Europe is generating more sewage sludge and hence putting more pressure on disposal outlets. Agricultural land is the principal disposal route for sewage sludge and has the advantage of involving the productive use of sludge to improve soil conditions and to supply nutrients for crop growth. At the same time, it is the route most sensitive to problems associated with organic and inorganic contaminants which may occur in sludge in higher concentrations than in soil. Considerable research effort is in progress within the European Community to investigate the effects of these contaminants and to ensure that soil fertility, crops, livestock and the human food chain are properly protected where sewage sludge is used on agricultural land. Adverse health effects could arise from the presence of some organic micropollutants in the food supply. Organic compounds can be toxic to mammals and many of them are carcinogenic and mutagenic. They are, however, only present in significant quantities in sludges derived from certain industries and are greatly diluted in normal sludge disposal operations. They are therefore only a potential risk in certain limited areas. In these areas, monitoring of sludge and disposal sites is a prudent precaution. Polyhalogenated compounds and polynuclear aromatic hydrocarbons should be regarded as the most important groups to be analysed and standardized of analytical and experimental methods, particularly in crop growth, is highly desirable. It was the aim of the Workshop to provide a forum for the exchange of recent research results and ideas on this important subject.

Price: Dfl. 85.– or USS 36.95.
Orders to: Kluwer Acad. Publ. Group, P.O. Box 322, 3300 AH Dordrecht, the Netherlands; or: Kluwer, 190 Old Derby Street, Hingham, MA 02042, U.S.A.


The present volume is an outgrowth, but not a complete record of, a symposium held in Denver in February 1977. Eleven of the 15 papers presented are included, plus 10 additional papers written later especially for this book, on a large variety of aspects of desert dust in the U.S.A., Africa, the U.S.S.R., China, the West Indies, and the planet Mars.

The well-illustrated publication has three subdivisions. The first group of papers discusses the origin of desert dust from a standpoint of the source areas as well as meteorological requirements. The second group deals with physical characteristics of the dust; several papers consider the distance of dust transport and present data showing that some dust is global in distribution. The third group concerns the effect of desert dust on man, from its influences on climate and agriculture to its importance in pollution. The tables of contents and the abstracts of most papers are presented in English, French, German, Russian and Chinese.

Price: USS 30.00. Prepayment required.
Orders to: Publication Sales, Geological Society of America, P.O. Box 9140, Boulder, CO 80301, U.S.A.


The term 'badlands' was originally used to described intensely dissected natural landscapes where vegetation is sparse or absent and which are useless for agriculture. They were generally considered to be typically of fluvial origin, characterized by very high drainage densities, V-shaped valleys and short, steep slopes, often fringed by gently sloping planar surfaces referred to as pediments or miniature pediments. With time, and increasing knowledge, application of the term has been expanded to include:

(1) areas where piping, tunnel erosion and mass-wasting processes combine with fluvial processes to produce a rugged, hummocky and dissected topography where the dense dendritic drainage network of 'classical' badlands is obliterated, and

(2) large areas, particularly in semi-arid regions, where a fragile natural equilibrium has been disturbed by ill-advised land use practices causing the delicately balanced system to move swiftly into extensive badland degradation. Although this is often triggered by man, the processes and resultant landforms are very similar to those in naturally-developed badlands.

While the thrust of badland research may not contribute as much to geomorphology in the future as some practitioners may hope, there is no doubt that it is a vigorous and significant area. Many formidable and technical problems remain to be tackled, but the twenty papers in this volume suggest we are close to the point where significant benefits can be obtained for land use management. This comprehensive volume will be of value by all geomorphologists interested in process, and by all those concerned with managing land in seasonally arid or semi-arid areas all over the world.

Prices: hardback edition: £ 16.50 or USS 31.00; paperback edition: £ 9.75 or USS 19.50; including postage if pre-paid.
Orders to: Geo Books, 34 Duke Street, Norwich NR3 1AP, England.

Des sols acides à forte différenciation texturale (Planosols), issus de matériaux sédimentaires argileux du Crétacé inférieur, sont étudiés en Champagne, France. Des études macro- et micromorphologiques, granulométriques, physico-chimiques et minéralogiques ont été menées. En outre le régime hydrique de ce type de sol a pu être étudié in situ durant cinq ans grâce à des techniques simples: piézométrie, tensiométrie, humidimétrie neutronique. Quatre bilans isoquartz de matière ont pu être établis qui ont permis de souligner que ces sols se sont différenciés par départ latéral de minéraux argileux des horizons supérieurs sans accumulation notable en profondeur. Il s'agit donc bien de Planosols primaires dont la genèse n'est pas liée à un climat particulier mais seulement à la conjonction de deux facteurs stationnels: roches-mères argileuses denses et topographie sub-horizontal.

Commandes à: Service d'étude des sols et de la carte pédologique de France. Ardon, 45160 Olivet, France.

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Among the basic needs of the people, food has been given first priority followed by human resource development, nutrition, health, natural resources and energy. As a matter of fact, populations in tropical and temperate regions depend greatly on rice production. There are a number of factors which influence the possibilities of increasing rice yield. Nitrogen, which limits primary production in many ecosystems of the world, is one of the key elements requiring investigation. Although the amount of nitrogen contained in paddy fields in the tropics is abundant, its effect as fertilizer is often observed to be relatively low. In addition, heavy fertilizer application is a large investment.

A comparative agricultural study in Thailand and Japan was therefore planned for the purpose of establishing a control system of nitrogen management in paddy fields. The project was conducted over a period of three years until March 1982. The present publication contains the research results in the hope that they might prove useful in future studies on this subject all over the world. It discusses results from field and laboratory studies in order to develop information on each process of the nitrogen cycle, the total nitrogen balance and on the effect of fertilizer use.

Requests to: Prof. Y. Takai, Tokyo University of Agriculture, 1-1-1 Yayoi, Bunkyo-ku, Tokyo 113, Japan.


Rice farmers have found, through trial and error, that under appropriate conditions, other crops can complement rice or even replace it, often with more total food production. This led to a symposium held in Los Baños, in September 1980; the 26 papers presented are contained in this book.

In the past two decades, much progress has been made in the area of crop physiology that deals with the growth and yield of field crops under different environments. The symposium offered a unique opportunity for crop physiologists working on different crops to meet and discuss their problems. One of the goals of the symposium was to estimate potential productivity. Potential productivity is an estimate of the upper limit of yield increase that can be obtained from a crop plant. It is, in a way, the most optimistic estimate of crop yield based on present knowledge and available biological materials under ideal management in an optimum physical environment. Although dramatic production gains have been made in the last 20 years, particularly from rice and wheat, further increases in production are becoming more difficult to attain.

Papers are presented in the following chapters: biological basis, physical environment, and crop productivity (5 papers); growth and yield of the field crops (13 papers); crop productivity under different environments (4 papers); increasing productivity through cropping systems (4 papers).

Price: US $ 17.50. discount for developing countries. Postage extra.

Orders to: Information Services Department, IRRI, P.O. Box 933, Manila, Philippines.


The third volume in the series Bibliographies of the History of Science and Technology is a selective, secondary bibliography written to guide English speaking scholars and students interested in the mainstream of the history of geology. Selections cover a wide range of scientific disciplines. Soil scientists may also be attracted by the entries on e.g. mineralogy and geomorphology. With analytical and descriptive comments, the bibliography lists anthologies, collections, books of abstracts, and reference works related to the nature and history of the Earth. Roughly 30 percent of the 800 titles are in western languages other than English. An author/subject index is included.

Price: US $ 37.00.

Orders to: Garland Publ., 136 Madison Avenue, New York, NY 10016, U.S.A.
Surveying for development is a complex, interdisciplinary subject. Geomorphology is a key element when in the early phases of the work an adequate break-down of the land into terrain units is aimed at and, together with other ecosciences, 'environmental geomorphology' plays a part in the subsequent phases of surveys for environmental resources. In the ultimate assessment of the land for specific purposes also socio-economic, cultural and other factors have to be considered and then one may, with justification, speak of fully 'integrated geomorphology'. In all cases, factual and functional information is required about landforms, geomorphological processes, their morphogenetical situation and their environment context, which together represent the four major aspects of geomorphology.

The book is composed of three parts. The first part begins with a general introduction and then concentrates on the position of geomorphology among environmental sciences and on the importance of this science in monodisciplinary resource surveys related to geological, soil, water and vegetation/forest resources. The second part deals with the utilization of environment by man and shows how on one hand geomorphological factors affect the works of man and how, inversely, man has become a factor changing geomorphology and environment to an important degree. It concludes with evident need for planned land utilization as to optimally use the available resources and to prevent or to stop environmental degradation.

The third part gives survey methodologies. These comprise of analytical geomorphological survey, which is largely monodisciplinary and emphasizes matters such as landforms, processes, genesis and chronology, of synthetic (holistic) surveys which are characteristically multidisciplinary and emphasize the environmental land qualities, and of pragmatic, problem-oriented surveys such as flood susceptibility surveys, erosion surveys, drought susceptibility surveys, etc.

Price: Dfl. 225.00.

Orders to: Elsevier Science Publ., P.O. Box 211, 1000 AE Amsterdam, the Netherlands. In U.S.A. and Canada: Elsevier Science Publ., P.O. Box 1663, Grand Central Station, New York, NY 10163, U.S.A.


This is the eight Volume in a series which seeks to explain, in flow diagram form, the definitions and keys in the USDA Agriculture Handbook Soil Taxonomy. The flow diagrams permit determination, down to subgroup level, of the taxonomic classes of soils in the Mollisols order. They are derived from the relevant keys and definitions in 'Soil Taxonomy' and incorporate USDA-approved amendments dated 5 May 1978. The flow diagrams are intended to permit easy stepwise interpretation of the keys and definitions, thereby helping to clarify the logic that is implicit in the text. They are likely to be useful in a variety of ways to persons working with 'Soil Taxonomy', whether in assisting initial familiarisation or in facilitating evaluation of proposed changes to the taxonomy. They are not, however, intended to replace the original formal text.

Earlier volumes were flow diagrams for diagnostic horizons and properties of mineral soils (vol. A), for soil moisture and soil temperature regimes and diagnostic horizons and properties of organic soils (vol. B), for the key to soil orders (vol. C), for the soil orders Histosols and Spodosols (vol. D), Oxisols and Vertisols (E), Aridisols (F), and Ultisols (G).

Price: NZS 3.00 + NZS 1.50 for postage, per volume.

Orders to: New Zealand Soil Bureau, DISR, Private Bag, Lower Hutt, New Zealand.


This report examines some of the opportunities for the utilization of organic wastes and residues commonly found in the poorer rural areas of the world. It is based on discussions and presentations at a panel meeting of the Advisory Committee on Technology Innovation held in Airlie, U.S.A., August 1979. The purpose is to set forth an array of alternatives for possible application where existing waste usage (or non-usage) is no longer appropriate.

The processes described range from simple and inexpensive techniques to those more complex and costly. Many are already in use in rural areas, but some are still being developed at universities and research institutes. Although there are some generalizations on economic factors, projections of operating and capital costs in vastly different environments are impossible. Most of the processes described are both labor intensive and site sensitive.

No attempt has been made here to provide detailed technical data for the conversion processes discussed. These may be found through the Selected Readings and Research Contacts listed at the end of each chapter. Rather, the report is intended to provide sufficient information for each technique to determine whether additional investigation is warranted. Research needs and limitations are included for each area considered.

Requests to: Commission on International Relations (JH-217), National Research Council, 2101 Constitution Avenue, Washington, DC 20418, U.S.A.
The earth's ecosystems are being increasingly modified to varying degrees by the impact of the activities of man. Unfortunately, there is no full understanding of the consequences of these disturbances on the earth's productive capacity. This problem was addressed by a group of French and U.S. ecologists who are specialists at levels of integration extending from genes to the biosphere at a meeting at Stanford, California. With a few important exceptions it was found at this meeting that most man-induced disturbances of ecosystems can be viewed as large-scale patterns of disturbances that have occurred, generally on a small scale, in ecosystems through evolutionary time.


The reconstruction of past climates involves the application of a variety of methods. One category of methods is based on stable isotope analysis. The principle applied is that the isotopic composition of a compound may be determined to some degree by the climatic conditions during its formation. This thesis deals with the effect of climate on the $^1H/^{18}H$, $^{18}O/^16O$ and $^{13}C/^{12}C$ ratio of cellulose synthesized by plants.

In the first chapter the methods are described. It also gives information on some newly developed devices, increasing speed and accuracy in the determinations. Furthermore, the problem of isolating cellulose from wood and peat is considered. In chapter 2, the experiments and results for the oxygen-18 fractionation between $CO_2$ and $H_2O$ are given. By virtue of the new oxygen-18 method a very accurate value can be established. In chapter 3, the processes that link the Deuterium and Oxygen isotope ratios of plant organic matter with climate are discussed. Chapter 4 gives the measurements of variations of all three isotope ratios in tree rings. It appears that in a tree ring considerable variations occur that cannot be attributed directly to changes of the exogeneous variables. The isotope ratios of bog plants and peat are treated in the last chapter.

Requests to: Dept. of Isotopephysics, State University, Westersingel 34, 9718 CM Groningen, the Netherlands.


The use of soilless growing media has grown explosively in the last two decades. Uses range from growing vegetables under glass in sand and gravel beds to the countless mixtures used in container growing of ornamentals. Despite this wide use, growers experience continuing problems with soilless media.

The problems encountered are related, in that the correct organization of the entire system and to knowledgeable management of the nutrient solution is central to successful use. Correct formulation of nutrient solutions is simply not enough – they must be managed through the life of the crop or plant in an informed way.

This book is a practical guide to the design, formulation, operation and management of both soilless media and nutrient solutions. The book is based on a detailed exposition of the nutritional requirements of plants. In down-to-earth terms it gives information from the basics of plant nutrition to problem solving in both small and large-scale growing operations. This informative and well produced publication has many tables, charts and illustrations.

Price: USS 19.95.

Orders to: The Timber Press, P. O. Box 1631, Beaverton, OR 97075, U.S.A.


The earth's ecosystems are being increasingly modified to varying degrees by the impact of the activities of man. Unfortunately, there is no full understanding of the consequences of these disturbances on the earth's productive capacity. This problem was addressed by a group of French and U.S. ecologists who are specialists at levels of integration extending from genes to the biosphere at a meeting at Stanford, California. With a few important exceptions it was found at this meeting that most man-induced disturbances of ecosystems can be viewed as large-scale patterns of disturbances that have occurred, generally on a small scale, in ecosystems through evolutionary time.

Man has induced dramatic large-scale changes in the environment which must be viewed at the biosphere level. Acid deposition and CO$_2$ increase are two examples of the consequences of man's increased utilization of fossil fuels. It is a matter of considerable concern that one cannot yet fully predict the ecological consequences of these environmental changes. Such problems must be addressed at the international level, yet substantive mechanisms to do this are not available.

Ecologists are now viewing the dynamic processes operating at the level of whole landscapes. The consequences of the patterns of man's use of landscapes are just beginning to be understood. Networks connecting centers of man's activities often sever the flow of resources of populations between ecosystems. They further serve a pathways for invasions of weedy species. Concepts and tools to deal with landscape phenomena have only been developed recently – they are discussed in this book. It assesses the consequences of man-induced and natural disturbances on the functioning of the total landscapes, ecosystems and populations of organisms.

Special attention is given to the effect of disturbance on the productive potential of natural systems. The demographic, genetic, and physiologically properties of organisms which inhabit disturbed sites are identified. The information assembled provides an initial framework for understanding, and hence managing, disturbed ecosystems.

Price: DM 128.00.

Orders to: Springer Verlag, Tiergartenstrasse 17, D-6900 Heidelberg, Fed. Rep. of Germany; or: 175 Fifth Avenue, New York, NY 10010, U.S.A.

This book is written for the tenth anniversary of the 1972 U.N. Conference on the Human Environment in Stockholm. In a foreword, Barbara Ward writes that 'During the decades since then we have gradually come to appreciate the extraordinary interdependence and fragility of that tiny part of our planet in which life is possible. A few thin meters of soil, a few miles up into the sky and a similar depth down into the oceans, encompasses virtually the whole of the biosphere in which we and other living things can survive.'

This appraisal of the global environmental ten years after the historic Stockholm Conference, has three parts. The first, on human conditions, sets out the population factor and its relation with health and the human environment. Part 2, on natural and unnatural conditions, has chapters on environmental issues of the oceans, the atmosphere and soils of croplands, wastelands and forestslands. The short last part is entitled the conservation of humanity and discusses some social, economic and technological forces that underlie environmental difficulties. It gives the role and lists the activities of UNEP in these issues.

Price: £35.00 net in U.K.
Orders to: W. W. Norton & Comp., 500 Fifth Avenue, New York, NY 10110, U.S.A.; or: 37 Great Russell Street, London WC1B 3NU, England.


Ecological biochemistry is concerned with the biochemistry of plant and animal interactions. Its development has been due in no small measure to the increasingly successful identifications of organic molecules in microquantities, following the application of modern chemical techniques to biological systems. It has also been due to the awareness of ecologists that chemical substances have a significant role in the complex interactions occurring between animal and animal, animal and plant or plant and plant in the natural environment. A further stimulation has been the possible applications of such new information in the control of insect pests and of microbial diseases in crop plants and in the conservation of natural communities. The present text is intended as an introduction to these new developments in biochemistry that have so enormously expanded our knowledge of plant and animal ecology.

This new edition of the text of 1977 has a considerable increased contents, dealing also with a variety of recent developments, particularly in areas of plant-insect and plant-mammal interactions.

The text is based on a course taught by the author over a number of years. It has been planned so that it is suitable for second or third year University teaching in departments of botany, biochemistry and biological sciences. Because of its interdisciplinary content, the book will be of more general value as a simple introduction to a new subject area.

Price: £10.50 or USS 33.00 (hardback ed.).
Orders to: Academic Press, 24-28 Oval Road, London NW1 7DX, England; or: Academic Press, 111 Fifth Avenue, New York, NY 10003, U.S.A.


This book comprises a selection of the more ecologically oriented papers contributed to a symposium, held at Grange-over-Sands, Cumbria, U.K., to celebrate the centenary of the publication of Darwin's book 'The Formation of Vegetable Mould through the Action of Worms'. The significant role of earthworms in many ecosystems is now recognized, also of their potential for pollution control and protein production.

This major volume reviews the broad scope of contemporary research on earthworms from their role in wildlife foodchains to their ecology in restored open-cast coal mines. It is presented in twelve sections, each comprising a comprehensive review chapter and two or three case studies.

The book begins with an appraisal of Darwin's work in its historical and philosophical context and relates his views on 'vegetable mould' to current concepts of humus formation. It has always been difficult to assess how far earthworm activity creates fertile soils and how far such soils create a favourable environment for earthworm activity. The early chapters of this book now facilitate a clear appreciation of the homeostatic mechanisms involved and fully vindicate Darwin's views on earthworm pedogenesis.

Subsequent sections discuss earthworm biology in temperate and tropical climates and in natural and man-made ecosystems, including polluted land and commercial vermiculture. The book concludes with chapters on earthworm evolution and the structure of earthworm communities, and finally proposes a revised taxonomy and nomenclature.

Each of the twelve review chapters cites some 20–100 published papers and together provide a rather comprehensive coverage of the earthworm ecology literature. The comprehensive coverage of this monograph will appeal to ecologists, soil scientists, agricultural scientists and those involved in the commercial cultivation of earthworms.

Price: £35.00 net in U.K.
Soils of cold regions have not commanded in the past as much attention from soil scientists as those of temperate or tropical areas because of their more limited suitability for agriculture. Interest in these soils has increased considerably in recent years, however, along with increased awareness of cold environments generally. The kinds of soils that exist in cold regions and the physical and chemical processes involved in their development are now reasonably well known. Most of the soil-forming processes are not unique to cold areas, but low temperatures, deep freezing, and, in much of the region, the existence of a perennially frozen substratum, modify them to produce soils with unique properties.

This book summarizes existing knowledge of the processes involved in the development of the principal kinds of soils that occur in cold regions and introduces readers who are not themselves pedologists to the classification of those soils.

The diversity in soil classification systems has made communication among pedologists of different backgrounds quite difficult. To avoid confusion in a work of this kind, it is necessary to select one taxonomic scheme and to use its concepts and terminology exclusively in the description of soils, regardless of the origin of the information presented. The one selected for use here is the USDA Soil Taxonomy. Soils are belonging to orders of the Entisols, Spodosols, Alfisols, Mollisols, Inceptisols and Histosols. The last chapter presents the correlations in the Canadian and USSR classification systems and with the units of the FAO-Unesco Soil Map of the World.

Price: £ 21.20 or S 32.00.

Orders to: Academic Press, 24-28 Oval Road, London NW1 7DX. England; or: Academic Press, 111 Fifth Avenue, New York, NY 10003, U.S.A.


This publication contains the papers presented at the 22nd Symposium of the British Ecological Society, held in Oxford in March 1981. Emphasis is placed on interactions between organisms and the environment, rather than on broad considerations of nitrogen cycling and budgets in ecosystems. The articles bring together the approaches of plant and animal ecologists to nitrogen as an ecological factor, particularly in the field of plant-animal interactions.

The introductory paper is concerned with nitrogen fixation and cycling within and between plants, and within a freshwater ecosystem. This is followed by three papers on symbiotic relationships. A group of papers is then concerned with nitrogen limitation of plant growth, the form in which it becomes available, and effects on ecosystem development.

The last paper which is devoted to plant considers the variety of nitrogen assimilation pathways and movements within plants and acts as a link with the several following papers concerned with insect-plant interactions. The final section of the book looks at the decomposer food web with a review of the nitrogen economy of termites and soil animals. Abstracts from nine poster displays are given at the end of this publication.

Price: £ 33.50.

Orders to: Blackwell Scientific Publ., Osney Mead, Oxford OX2 0EL, England; or: Blackwell-Mosby Book Distr., 11830 Westline Industrial Drive, St. Louis, MO 63146, U.S.A.


Cet ouvrage est le fruit d’une longue expérience puisque l’auteur travaille depuis plus de trente ans sur les problèmes d’irrigation, d’hydrologie, des mouvements des sols dans le sol et d’évolution des sols consécutives à l’irrigation. Le problème de l’irrigation est vital pour le développement de la production agricole dans les zones arides et semi-arides. La faiblesse et l’irrégularité des précipitations ne permettent pas de garantir un minimum de sécurité alimentaire et rendent rapidement les investissements prohibitifs en culture pluviale. De plus, ces cultures ont souvent un effet désastreux sur le milieu.

Mais irriguer n’est pas aussi simple qu’il y paraît à première vue. Apporter un petit appoint d’eau par arrosage peut avoir un effet contraire à celui attendu. L’irrigation en zone aride ou semi-aride est une opération délicate, qui suppose une bonne connaissance des caractéristiques du climat, du sol, de l’eau d’irrigation et de la plante et l’application méticuleuse des normes établies sur ces bases.


Prix: FF 90.00.


The ancient landscapes of Australia, like those of Africa and much of South America, show in their soils the imprint of a long history of changing climates and biological diversity. In many ways their soils differ from those of the post-glacial landscapes of northern Europe, where soil science had its origin, and of North America.

Fifty years of research experience is drawn upon, by 67 authors, many of whom have pioneered their specialized fields of knowledge in Australia and whose names are known internationally as leaders in soil science. Their knowledge of Australian soils, of the processes that have shaped them, their relationships to the soils of the world, and some aspects of land use in Australia provide a viewpoint of soils unlike any previously published.

The over-all picture that this book presents is of a vigorous scientific effort to understand the soils of a continental area that extends from near-equatorial to subantarctic latitudes and includes deserts, semi-arid savannas, sclerophyll forests, tropical and temperate rainforests, farmlands and urban areas.

This book is addressed mainly to professional soil scientists and to postgraduate research workers in soil science and related fields, but its contents will be useful to all students of soils in tertiary institutions or industry. This very informative and excellently produced book deserves a wide circulation, also outside Australia.

The book is divided into a number of sections that deal with the occurrence and genesis of Australian soils, their chemistry, mineralogy, physics and biology; some final chapters concern soil and land management. Each section is relatively self-contained, so some of the material will be of interest to workers outside the field of soil science. At the same time, and in keeping with the view that pedology constitutes an important frame of reference for soil science and its application to the real world, the authors have attempted throughout to relate soil properties and processes to particular soils or soil groups, based on the Australian Great Soil Group classification, which was also employed in the ‘Handbook of Australian Soils’ published in 1968. Approximate correlations between the Great Soil Group nomenclature and those used in the Northcote Factual Key, the U.S. Soil Taxonomy and the FAO-Unesco Soil Map of the World legend are also given.

To some, soil science is a discipline in its own right; to others, it is a meeting ground where many disciplines of the natural sciences can collaborate. Each approach has two aims: firstly to provide a scientific basis for land use and land management; secondly to add to the store of knowledge about world soils on which our survival depends. This book is a record of the experience, so far, in documenting, characterizing and managing the fragile soil resources of an ancient continent that is often bedevilled by a harsh and capricious climate.

Price: £ 53.00 or US$ 89.00. In Australia: Austr. $ 85.00.


This contribution consists of three map sheets covering North-eastern, North-western and Southern Africa, one sheet for the general English-French legend, with 80 major vegetation types and an explanatory text of 356 pages.

The classification used for the vegetation map is based almost entirely on physiognomy and floristic composition of the vegetation, while the text provides climatic maps for each of the major phytogeographic regions. Vegetation and climate are dealt with separately. Only a few comparative climatic terms, such as moist and dry, are occasionally used in the designation of mapping units. In the legend the mapping units are grouped traditionally, according to physiognomy, while in the text they are grouped by the floristic regions in which they occur. The legend permits easy comparison of African vegetation with that of other continents, while the text deals effectively with complicated spatial and dynamic relationships.

The written account of African vegetation is introduced by brief chapters dealing with geology, climate, soils, animals, fire, and use and conservation. The vegetation of the main floristic regions is described individually. For each region, the salient features of the flora, geology and climate are described, and a black and white map is provided. These ancillary maps illustrate topographic features mentioned in the text and summarize the regional climate by means of climatic diagrams. For each of the main vegetation types, references to sources materials and other important publications, published photographs and profile diagrams (if available), as well as major synonyms, are given.

The bibliography includes over 2400 works consulted during compilation of the map and the writing of the descriptive memoir. The index gives names of the nearly 3500 plant species, together with their major synonyms. The index alone provides an introduction to ecological information on virtually all species playing an important part in African vegetation. This important new publication is a lasting reference for biologists, geographers and scientists and students in related environmental sciences.

Price: FF 250.00 (maps and memoir not sold separately).
Orders to: Unesco National Distributors around the world, or, in case of difficulties: Unesco Press, 7 place de Fontenoy, 75700 Paris, France.

This bibliography has been reproduced for circulation to individuals and organizations who have expressed interest in the aims of the project for monitoring site changes under forest crops as well as those already undertaking work in this field who may find this collection of references with short notes or abstracts of interest.

The references are stored on floppy discs and are continually being updated as work proceeds. This cannot therefore be considered to be a comprehensive list in any sense. Emphasis has been placed on work that has particular relevance to the present stage of the project, that is a search for key indicators of site change that can be assessed in the field by means of semi-permanent sample plots. A brief document reviewing the basic concepts has been prepared based on a selection of the reference included here. The next stage is the preparation of a manual of sample plot procedures. Further references on sampling and analytical methods will be included as this part of the project develops.

Requests to: Unit of Tropical Silviculture, Commonwealth Forestry Institute, South Parks Road, Oxford, OX1 3RB, England.


This new publication in the series Themes in Resource Management provides an overview of the history of resource use in the arid lands throughout the world and explains the problems facing contemporary land use in these crucial areas. A brief review of the expansion of scientific knowledge of the arid lands precedes an examination of the resources offered by the arid ecosystems. The evolution and environmental impact of various forms of resources uses, such as nomadic systems, ranching, rain-fed and irrigated agriculture, mining and urban developments, are documented. Finally, the problems of arid land management, such as different systems of land ownerships, conflicting philosophies of resource allocation and political jurisdiction, are shown to reflect varying human perceptions of the global arid lands and their role as resources. This introduction in resource management is of great interest for students of geography, development studies and environmental science, and will be of particular importance of professionals working in developing countries.

Price: £ 7.95 in U.K.


Compared with forces occurring in soil mechanics problems in civil engineering, the forces that are applied to soil in farming operations generally have a short duration, less than a few seconds, a small loaded area, no more than a few square decimeters, and small intensities, 10 bar being a high value. On the other hand, soil properties vary widely between those of a weak mud and a stone-like dry soil. Tillage and related applications of force to soil are practiced worldwide in farming. Theoretical knowledge of this most common human activity, which largely determines the surface shape of the fertile part of the earth, is still very limited. In this book the authors have tried to give an outline of the present state of the art and is written for readers who have no more theoretical knowledge than high school level, as well as readers who want to go beyond the level of a third year university student. Much care was given to instructive illustrations. A second aspect that received special attention was the selection of suitable references, since scientists all over the world, although small in number compared to the immense field of knowledge involved, contributed to the present state of the art.

Price: DM 128.00 or about USS 55.00.

Orders to: Springer Verlag, Tiergartenstrasse 17, D-6900 Heidelberg, Fed. Rep. of Germany; or: 175 Fifth Avenue, New York, NY 10010, U.S.A.


This publication consists of the papers presented at a workshop, held in Göttingen, May 1982. The book is the first attempt at exploring the long-term effects which develop gradually with time as a consequence of continuous large-scale deposition and storage of acids, heavy metals and other air pollutants. Methods of measuring deposition are critically reviewed, talking into account the interaction of forest canopies with air constituents. The papers present information available for central Europe for rates of deposition, storage in forest ecosystems, and acid buffering. They also cover the theory and measurement of ecosystem internal acid production and the theory of forest ecosystem stability, as well as destabilization caused by air pollutants. Information on the effects of accumulating air pollutants and their chemical reaction products on plants and soil organisms is also given. Much recent information is given on the effects on the chemical and biological soil state and on those of soil acidification on plants.

Price: Dfl. 135 or USS 58.50.

Orders to: In U.S.A. and Canada: Kluwer Acad. Publ., 190 Old Derby Street, Hingham, MA 02043, U.S.A. In all other countries: Kluwer Acad. Publ. Group, P.O. Box 322, 3300 AH Dordrecht, the Netherlands.
Conditions under which vapour flow can take place against the direction of heat flow. A new fundamental definition is presented for heat exchange at the soil-air interface in terms of the apparent soil thermal admittance. The effect of soil physical aspects determining evaporation is discussed in detail, showing that under specified conditions, the rate of evaporation is a function of factors such as soil moisture content, temperature, and wind speed. It is shown that, under specified conditions, the rate of evaporation can be accurately calculated using the Penman equation, which relates the actual evaporation to the energy balance at the soil-air interface.

Evaporation in deserts may seem to be a rather remote research subject. Reality proves otherwise: at many sites, called playas, groundwater (often of prehistoric origin) reaches near or up to the desert ground surface. Given the extreme climatic circumstances, the resulting evaporation draws appreciably on the groundwater reserves present. To predict the long-term use of this groundwater for irrigation or domestic and industrial purposes, it is imperative to have a good estimate of the natural evaporation quantities involved.

After establishing a new combination formula to calculate actual evaporation from within the soil, the soil physical conditions determining the evaporation are discussed in detail. It is shown that under specified conditions, vapour flow can take place against the direction of heat flow. A new, fundamental definition of evaporation sites is given and the bearing on a model of heat and moisture flow is discussed. A theory of heat exchange at the soil-air interface is presented in terms of the apparent soil thermal admittance. Equations to relate the latter soil property to soil layering and to the frequency of the surface temperature wave are given. A theory of evaporation in terms of multi-dimensional geometry is proposed and it is shown how to derive approximate formulae to calculate actual evaporation by making use of satellite data only. For more accurate results, point ground reference measurements have been used to calibrate the satellite-based calculations. After describing a particular desert area in Libya, the accuracy of a number of satellite data of that area is discussed on the basis of ground reference measurements and numerical correction procedures.

Finally, the theory is combined with satellite and point ground reference data to calculate the different terms of the surface energy balance and the actual evaporation for some 36,000 km² of the Libyan desert.


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Finally, the theory is combined with satellite and point ground reference data to calculate the different terms of the surface energy balance and the actual evaporation for some 36,000 km² of the Libyan desert.

Price: Dfl. 45.00, including postage. Prepayment required.

Orders to: ICW, P.O. Box 35, 6700 AA Wageningen, the Netherlands.


Knowledge gained through international agricultural research is useless unless it is published and disseminated to its target audience of scientists, educators, extension specialists and farmers. Thus, there is an increasing interest by Agricultural Research Centers and Development Organizations in International Book Fairs. The 1983 Frankfurt Book Fair featured material on agricultural research and development for the Third World published by the 12 Agricultural Research Centers supported by the Consultative Group on International Agricultural Research (CGIAR), 5 other Agricultural Research Centers, the Board on Science and Technology for International Development (BOSTID), and the German Agency for Technical Cooperation (GTZ).

The present annotated catalogue with nearly 1000 entries is a very timely publication. It mentions all information such as books, newsletters, annual reports, bibliographies, bulletins, circular letters, and audiovisuals, available from the 19 organizations mentioned, together with prices and ordering instructions. This is an excellent publication for libraries, organizations and individuals with an interest in worldwide agricultural improvement.

Price: US$ 6.00 including airmail postage. Prepayment required.

Orders to: Information Services Department, IRRI, P.O. Box 933, Manila, Philippines.
New Journals/Nouveaux Périodiques/Neue Zeitschriften


This is the first journal to focus on the development of new tree crops, and multiple land use practices producing both wood and food or other cash crops collectively known as agroforestry. There is a growing awareness of not only the large number of potentially economic tree crops which await large-scale utilisation, but also the need to consider forestry and agriculture together if effective long-term management of land and proper evaluation of forest genetic resources is to be ensured, especially in the tropics. The emphasis of the journal is on the communication of research results as well as on the exchange of practical experience; papers, letters and news items are published within the following subject areas: non-wood tree crops, agroforestry, environmental management, processing, afforestation, and forestry for local community development.

Subscription price: £ 39.00; USS 69.50 in the U.S.A.
Orders to: AB Academic Publ., P.O. Box 97, Berkhamsted, Herts, HP4 2PX, England.


This new journal is the first scientific journal to focus on the development of biological husbandry as a viable form of agriculture. During the past 40 years agriculture and horticulture in the developed countries have become more intensive, mechanised and energy-consuming. Although these developments have resulted in very large increases in productivity they have been shown in some instances to have been accompanied by detrimental side-effects of an environmental and social nature and by an excessive use of world resources. More recently, since the energy crisis, this system of agriculture has become subject to the constraints of rapidly-increasing energy prices. Problems associated with modern, conventional agriculture may become intensified when the system is applied to the developing countries - indeed this type of agriculture is frequently not applicable to the economic and social conditions to be found in these countries.

Alternative systems, based upon biological principles, have been devised with the intention of minimising these problems. Such systems of biological agriculture and horticulture, otherwise known by the overall term biological husbandry attempt to provide a balanced environment in which the maintenance of soil fertility and the control of pests and diseases are achieved by the enhancement of natural processes and cycles, with only moderate inputs of energy and resources - but without any significant loss of productivity. Areas covered include: soil fertility and management, biological control methods, energy utilization studies, agricultural systems and environmental management, development of appropriate agricultural technology, and biological agriculture and horticulture.

Subscription price: £ 49.00; USS 85 in the U.S.A.
Orders to: AB Academic Publ., P.O. Box 97, Berkhamsted, Herts, HP4 2PX, England.


This international quarterly is published in cooperation with the Urban and Regional Information Systems Association, it provides the results of high quality scholarship on the application of computer-based techniques in such areas as: planning; administration; resource management; budgeting; transportation; politics; constructional scheduling; health care; provisions of services; management of social and legal services; communications; urban design; and space allocation. Editor is Dr. G.A. Gebert.

Orders to: Pergamon Press, Headington Hill Hall, Oxford OX3 OBW, England; or: Pergamon Press, Fairview Park, Elmsford, NY 10523, U.S.A.


This newly established journal is the official publication of the Indian Society for Plant Nutrition. It publishes papers on original research and critical reviews concerned with different aspects of mineral nutrition of plants. It is published twice per year.

Subscription: Rs. 100/- within India, USS 20.00 elsewhere.
Orders to: Prof. C. P. Sharma, Secretary, I.S.P.N., Botany Dept., Lucknow University, Lucknow 226 007, India.

Ciencia del Suelo. Revista de la Asociación Argentina de la Ciencia del Suelo. R. S. Lavado, editor.

This newly established journal of the Soil Science Society of Argentina is issued twice per year in one volume. It is open for publications on Argentinian soils as well as for original soil research carried out in other countries.

The Soil Science Society of Argentina is congratulated with this welcome initiative.

Subscription price: USS 12.00 including postage.
Orders to: Dr. R. S. Lavado, Editor de Ciencia del Suelo, Calle 532, No. 949 esq. 14, 1900 La Plata, Argentina.

This new journal is devoted to all aspects of clay mineralogy. In his introduction, Dr. S. K. Mukherjee, President of CMS, writes that "... a specialised journal on clays and clay minerals would be useful in more ways than one: to those who are specially interested in this subject area, it would save them the trouble of going through journals of general soil science and related areas and also would give them a facility to publish in a journal devoted to their specialisation". The journal publishes all articles of interest to the international community of clay scientists, and covers the subjects areas of mineralogy, geology, crystallography, geo-chemistry, physical and colloidal chemistry, physics, ceramics, civil and petroleum engineering, soil science and agronomy.

Subscription price: India: Rs. 80 per year; elsewhere US$ 40.00 per year.
Orders to: The Clay Minerals Society of India, Division of Agricultural Physics, I.A.R.I., New Delhi 110 012, India.


This first volume is concerned with the soils of heathland and chalk grassland and contains information collected for the first field meeting of the newly established South-East England Soil Discussion Group (SEESOIL). Similar groups are in existence in some other regions of the U.K., they provide a forum in which people from many backgrounds but with a common interest in soils can share their knowledge and broaden their understanding in a regional context. The secretary of Seesoil is Mr. A. J. Moffat, Soil Survey of England and Wales, Alice Holt Lodge, Wrecclesham, Farnham, Surrey GU10 4LH, England.

Price: £ 4.50 including postage, for volume 1.
Orders to: Dr. C. P. Burnham, Wye College, Ashford, Kent TN25 5AH, England.


To meet future demands for fuels, foods, chemical feedstocks, health care and environmental pollution control, a dramatic increase in worldwide applications of biotechnology is required. This new international review journal has been conceived as a means of keeping researchers, practitioners and managers up-to-date with this rapidly growing field.

Subscription price: U.S. $100.00 (1984), $ 190.00 (1984 and 1985).


This new publication serves as a much-needed forum where experts from all disciplines speak out on important issues is the field of engineering, scientific and commercial aspects of industrial biotechnology. Each issue has three to six original research papers, articles that focus on the techniques of scaling-up to industrial production, letters from scientists around the world, review articles, book reviews, announcements of courses, seminars, and special meetings.

Subscription price: U.S.A.: US$ 78.00; Canada: US$ 92.00; elsewhere: US$ 112.00. Two years; reduced prices.


This new journal will be interdisciplinary in scope and readership. It will make land its specific concern and will explore the contingent issues of economics, law and science to assess the problems and promote their solution. Agriculture, forestry, irrigation, drainage, landscape, recreation, housing, transport, urban and rural development and planning are among the subjects that will be examined. Editor is Dr. M. Brett-Crowther.

Orders to: John Edmondson, Butterworth Scientific Ltd-Journal Div., P.O. Box 63, Guildford, Surrey GU2 5BH, England.

Mazingira. The international magazine for environment and development. Tycooly Int. Publ. Comp., Dun Laoghaire. ISSN 0250-6858.

This well-known journal will now appear every two months in the larger A4 format. It has an expanded content and coverage of environmental issues and events. The journal is published with support of UNEP and provides a forum for the discussion of many aspects of the environment and is a source of international environmental information and development issues. There are also editions in French and Spanish. A regional edition is available in India.

Subscription price: (1984) £ 15.00 or US$ 25.00 in industrialized, US$ 15.00 in developing countries.
Orders to: Journals Coordinator, Tycooly International Publ. Comp., 6 Crofton Terrace, Dun Laoghaire, Co. Dublin, Ireland.
Computer Enhanced Spectroscopy (CES), An International Journal. ISSN 0734-3051 Wiley Heyden.

This new journal is devoted to the rapid publication of papers describing novel practical work in which the performance of a spectrometer or a chromatography/spectrometer combination is enhanced with a computer. Contributions centre on minicomputers and microcomputers, their application in the control and operation of spectrometers, the acquisition and evaluation of data, the relevant software and user-developed programs and the associated hardware and interfaces. Papers on more sophisticated computers and spectrometers, especially where the object is to interrelate the output of a number of instruments or to involve data bases and Spectra Collections, or where there are implications for the smaller installation are also included. Short communications and Letters to the Editor are also invited so that an interchange of ideas and results can be established. Reviews on topics of special interest will be included.

Subscription price: £ 50.00 in U.K., US$ 110.00 elsewhere.

Orders to: Subscriptions Dept., John Wiley & Sons, Baffins Lane, Chichester, West Sussex PO19 1UD, England.


This new multidisciplinary international journal will cover all aspects of water development and management. It will provide a major international forum for the rapid publication of the latest developments on water resources in developed and developing countries. It will provide state-of-the-art review articles, case studies and reports on the application of the latest research results. Editor is Dr. Asit K. Biswas, Oxford, England.

Subscription price: US$ 95.00 (1 yr), $ 180.00 (2 yrs).

Orders to: Tycooly Int. Publ. Ltd., 6 Crofton Terrace, Dun Laoghaire, Co. Dublin, Ireland.


A decade ago the use of fabric in civil engineering projects was considered a novel concept. Today it is almost impossible to conceive of civil engineering without having to consider the tremendous impact geotechnical fabrics have made in design and installation techniques.

Geotechnical fabrics can now be found in thousands of construction projects worldwide. Fabrics are being used in roads built through the jungles of Indonesia and the tundra of Canada. Coastlines in Northern Europe are protected by geotextiles, irrigation and drainage are expanding markets for fabric. Also dump sites can be protected by a flexible liner.

This new journal intends to inform on the changes occurring in the field of geotechnical fabrics. Its single aim is to provide a regular forum for the exchange of ideas and information which leads to the advancement of geotechnical fabric use.

Subscription price: US$ 24.00 in North America, $ 36.00 elsewhere.

Orders to: Geotechnical Fabrics Report, 345 Cedar Bldg., Suite 450, St. Paul, MN 55101, U.S.A.


Much has been written in recent years concerning shortages in world food supply and energy resources and the role that research in the plant sciences might contribute to increased crop productivity and alleviation of these problems. Interest has been particularly concentrated on basic research areas in photosynthesis, nitrogen fixation, and genetic engineering. The initiation of a journal to provide critical reviews not only on these topics but also in other areas of plant science is appropriate. It will focus on presenting indepth and up-to-date reviews of timely subjects in the various areas of plant science. The most significant papers in the recent and current literature will be reviewed and synthesized, and an evaluation of research and advances in the topic area as well as the identification of major problems and prospects for the future will be presented. A major objective is that the journal will become an outlet for outstanding reviews and a leading source for state-of-the-art information in the basic as well as the applied areas of plant science.

Subscription Price (1984) US$ 96.00 for 4 issues per year.

Orders to: CRC Press, 2000 Corporate Blvd, N.W., Boca Raton, FL 33431, U.S.A.


This new international quarterly is published in English and deals with all aspects of fundamental and applied research in tropical agriculture, including basic, biological and social sciences which have a direct bearing on and are of relevance to agricultural and rural development in the tropics. Published are: review articles, original papers, short communications, and letters to the editor. Editor-in-Chief is Dr. R. D. Laura, Haryana Agricultural University, Hissar, India.

Subscription price: Individuals US$ 25.00, Institutions US$ 50.00, plus postage; surface mail US$ 5.00, airmail US$ 10.00.

Orders to: Vidya Int. Publ., 8/16, New Campus, Haryana Agricultural University, Hissar, Haryana 125004, India.
Reclamation and Revegetation Research. Elsevier Science Publishers, Amsterdam. ISSN 0167-644X.

This is an international and interdisciplinary quarterly forum for original scientific contributions directly relevant to the reclamation and rehabilitation of drastically disturbed lands. Papers published cover the following areas: agronomy, biology, ecology, engineering, geology, hydrology, soil science, and legal and planning aspects.

Subscription price: (1984) USS 79.00, including postage.
Orders to: Elsevier Scientific Publishing Company, P.O. Box 211, 1000 AE Amsterdam, the Netherlands.


La Lettre du Loess/Loess Letter (LL) is published by the Quaternary Research Group of the University of Waterloo, Ontario, Canada; it is the informal newsletter of the INQUA Loess Commission. LL appears twice a year, usually around April and October. It contains brief research papers, reviews of recently published material, news items and announcements. LL 9, published in April 1983, is a special issue to celebrate the Symposium on 'Correlation of Quaternary Chronologies'. LL 10 pays special attention to Scanning Electron Microscopy and Loess. LL is free to anyone interested in loess material or loess soils. Requests for copies, and material for publication should be sent to: Prof. Ian Smalley, Dept. of Earth Sciences, University of Waterloo, Ontario, Canada N2L 3G1.


With well over one thousand Zeiss electron microscopes now in use all over the world, the company decided to start this new magazine for electron microscopists. It is a special issue of Zeiss Information and appears at irregular intervals. MEM publishes articles on the experience and suggestions which have arisen from the work of individual users, it is sent free of charge. The editor is Dr. W. Wasserbach.
Requests to: Zeiss Information, Carl Zeiss, P.O. Box 1369/1380, D-7082 Oberkochen, Fed. Rep. of Germany.


This new journal will publish most of the papers of meetings sponsored by the International Water Supply Association, including the biennial congresses, specialised conferences and workshops and some regional conferences as well as some additional papers. The IWSA is 35 years old. Through congresses it has engendered a considerable volume of meeting and interchange between the water suppliers of fifty countries throughout the world and by that means has contributed to professional development. Nowadays, in addition to the Congresses, IWSA has a number of different technical events, on particular themes coinciding with major preoccupations of water suppliers. This acceleration of the technical effort of the Association has brought to fruition the idea of a technical review based on the papers of congresses and conferences. In 1983 Water Supply will consist of four issues representing about 1200 pages of scientific and technical papers drawn from the work of two conferences dealing respectively with eutrophication and low cost technology and from the papers from the 14th World Congress at Zurich.

The first issue (vol 1, no. 1, 1983, 280 p) is entitled: Eutrophication and Water Supply, and has papers presented to a specialised conference held in Vienna in October 1981.

Price: USS 220.00; 1984/85 USS 418.00. Lower rates for members of ISWA.
Orders to: Pergamon Press, Headington Hill Hall, Oxford OX3 OBW, England; or: Maxwell House, Fairview Park, Elmsford, NY 10523, U.S.A.


Aqua is the journal of the International Water Supply Association. The Association is concerned with water supply for domestic, agricultural and industrial purposes and the safeguarding control and provision of the necessary water resources including as may be appropriate control of pollution and the treatment of waste water. A prime object of the Association is to improve relevant knowledge, technical, legal and administrative. The journal will include scientific and technical papers, descriptive articles of general interest and items concerning the congresses, conferences, seminars and other activities of the Association. The primary aim is to offer a scientific, technical and managerial forum for those concerned with any part of the field whether research, consultancy, operations or management.

Among the subjects which will be included are the following: pollution control; planning and management of water resources; water quality and health; water treatment; distribution and maintenance; tariff and metering; electronics and automation; system optimisation and management; general management and organisation.

Price: 1984; USS 60.00; 1984/85; USS 114.00. Free for members of ISWA.
Orders to: Pergamon Press, Headington Hill Hall, Oxford OX3 OBW, England; or: Maxwell House, Fairview Park, Elmsford, NY 10523, U.S.A.
In recent years, the growing concern over the potential risk to humans from exposure to environmental carcinogens has led to the very rapid growth and diversification of investigations in this field. However, reports devoted to this subject have been published in widely scattered journals, making it difficult to stay abreast of the latest findings. The present new addition to the carcinogenesis literature provides multidisciplinary, concise, integrated, critical reviews covering all aspects of chemical carcinogens in the environment.


Orders to: Marcel Dekker, 270 Madison Avenue, New York, NY 10016, U.S.A.

NEWS FROM THE ISSS SECRETARIAT AND TREASURY

NOUVELLES DU SECRETARIAT ET DE LA TRESORERIE DE L’AISS

MITTEILUNGEN DES IBG-SEKRETARIATS U.D. KASSENVERWALTUNG

The following soil scientists have now become life-member of ISSS:

Les pédologues suivants sont devenu membres pour la vie:

Die volgenden Bodenkundler sind Mitglieder auf Lebenszeit geworden:

Dr. E. Pushparajah, RRI - Malaysia
Dr. R. Dudal, FAO - Italy
Dr. A. Osman, ACSAD - Syria
Mr. J. H. V. van Baren, ISRIC - Netherlands
Dr. Go Ban Hong, FAO - Thailand
Dr. P. Smart, Glasgow Univ - UK
Dr. H. Ch. Moss, Saskatoon - Canada
Mr. Y. P. Kalra, CFS - Canada
Mr. M. M. Striker, Gainesville - USA
(already member for 50 years!)

Mr. J. G. van Brandt, FAO - Senegal
Dr. R. W. Fitzpatric, CSIRO - Australia
Mr. C. A. van Diepen, ISRIC - Netherlands
Dr. A. K. Singh, IARI - India
Mr. J. H. S. Bruin, FAO - Upper Volta
Mr. H. Brammer, FAO - Rome
Mr. J. Riquier, Villeneuve Loubet - France
Dr. M. Bybordi, Plan & Budget Org. - Iran.
Mrs. Caroline C. Mba - Nigeria

RECEIPTS AND PAYMENTS ACCOUNT for the period January – December 1983

(Treasurer and Secretary-General)

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<td><strong>Total</strong> 69,999.61</td>
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(1) Contribution by Dutch Soil Survey Institute Stiboka

(2) Fictitious loss of ‘dollar equivalents’ on the foreign currencies of the balance of January 1983 because of the increase in dollar exchange rate at the end of 1983.

(3) US dollars, Belgium francs, Dutch guilders and other currencies
**RELEVE DE RECETTES ET DEPENSES** pour la période de janvier au décembre 1983  
*(Trésorier et Secrétaire général)*

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**EINNAHMEN – AUSGABEN RECHNUNG** für den Zeitraum Januar-Dezember 1983  
*(Schatzmeister und Generalsekretär)*

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<td>Dollar Equivalenten</td>
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<td>Bankguthaber (3)</td>
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<td>Generalsekretär</td>
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<td>Anlage bei Spareinlage</td>
<td>69,999.61</td>
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1. Contribution de l'Institut Néerlandais de Cartographie des sols 'Stiboka'  
2. Perte fictive d'équivalents de dollar à la fin de 1983 par rapport au bilan du janvier 1983  
3. Dollars, francs, florins, etc...
MEMBERSHIP APPLICATION FORM/FICHE DE DEMANDE D’AFFILIATION/AUFNAMEANTRAG FORMULAR

International Society of Soil Science (ISSS)
Association Internationale de la Science du Sol (AISS)
Internationale Bodenkundliche Gesellschaft (IBG)

☐ REGISTRATION FOR MEMBERSHIP/DEMANDE D’AFFILIATION/AUFNAHMEANTRAG

☐ CHANGE OR CORRECTION OF ADDRESS/CHANGEMENT OU CORRECTION D’ADRESSE/ANSCHRIFTENANDERUNG

☐ STATEMENT ON SPECIAL INTERESTS/DECLARATION D’INTERÊTS SPECIAUX/ANZEIGUNG VON SPEZIALINTERESSEN

☐ APPLICATION FOR LIFE MEMBERSHIP/DEMANDE D’AFFILIATION POUR LA VIE/ANTRAG AUF MITGLIEDSCHAFT AUF LEBENSZEIT

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Numéro d’affiliation (si applicable) Ancien pays de domicile
Mitgliedernummer (wenn anwendbar) Voriger Landesort

* Surname (Apellido/Sobrenome)
* Nom de famille
* Familienname

First name(s) (Nombre/Name) or initials, and title(s)
Prénom(s) ou initiales, et titre(s)
Vorname(n) oder Initialen, und Titel(s)

Address (Institution & Dept., Street and no. P.O. Box, Town & Zipcode, Country)
Adresse (Institution et Département, Rue et no., Boîte Postale, Ville et Code Postale, Pays)
Anschrift (Institut & Abteilung Strasse & No., Postfach, Stadt & Postleitzahl, Land)

Date Signature
Datum Unterschrift

* For composite names, please indicate first the part of the name to be used for listing it in alphabetical order.
* Pour les noms composés, prière de marquer en premier lieu l’élément du nom à utiliser dans une liste alphabétique.
* Bei zusammengesetzten Namen wird gebeten, zuerst den Teil des Namens anzugeben, der in einer alphabetische Folge erscheinen soll.

please turn over!/voir au verso!/bitte wenden!
<table>
<thead>
<tr>
<th>Subcommission/Sous-commission/Subkommission</th>
<th>Description</th>
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<tr>
<td>A (Salt Affected Soils/Sols salins/Salzböden)</td>
<td>Soil Conservation and Environment/Conservation du sol et environnement/Bodenerhaltung und Umwelt</td>
</tr>
<tr>
<td>B (Micromorphology/Micromorphologie/Mikromorphologie)</td>
<td>Soil Fertility and Plant Nutrition/Fertilité du sol et nutrition des plantes/Bodenfruchtbarkeit und Pflanzenernährung</td>
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<tr>
<td>C (Soil Conservation and Environment/Conservation du sol et environnement/Bodenerhaltung und Umwelt)</td>
<td>Soil Genesis, Classification and Cartography/Genèse du sol, classification et cartographie/Boden­genetik Klassifikation und Kartographie</td>
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<tr>
<td>D (Desertification/Desertification/Verwüstung (Subcomm. C))</td>
<td>Soil Technology/Technologie du sol/Bodentechnologie</td>
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<tr>
<td>E (Forest Soils/Sols forestiers/Waldböden (Comm. V))</td>
<td>Soil Mineralogy/Minéralogie du sol/Bodenmineralogie</td>
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<tr>
<td>F (Soil Information Systems/Informatique en pédologie/Informationssysteme i.d. Bodenkunde (Comm. V))</td>
<td>Soil Colloid Surfaces/Surfaces des colloïdes de sol/Kolloidale Oberflächen in Böden (Comm. H)</td>
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<tr>
<td>G (Paleopedology/Paléopédologie/Palaopedologie (Comm. V. with/avec/mit INQUA))</td>
<td>Soil Fertility Trials/Essais de fertilité des sols/Bodenfruchtbarkeitsproben (Comm. IV)</td>
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<td>H (Remote Sensing for Soil Surveys/Pédologie et Télédétection/Fernerkundung für Bodenkartographie (Comm. V))</td>
<td>Desertification/Desertification/Verwüstung (Subcomm. C)</td>
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<tr>
<td>I (Land Evaluation/Evaluation des terres/Landbewertung (Comm. VI))</td>
<td>Engineering Properties of Soils/Propriétés constructuelles des sols/Ziviltechnische Eigenschaften von Böden (Comm. II)</td>
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<td>K (Acid Sulphate Soils/Sols sulfatés acides/Saurc Sulfatböden (Comm. V))</td>
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<tr>
<td>M (Soil Colloid Surfaces/Surfaces des colloïdes de sol/Kolloidale Oberflächen in Böden (Comm. H))</td>
<td>Paleopedology/Paleopédologie/Paleopedologie (Comm. V, with/avec/mit INQUA)</td>
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<tr>
<td>N (Working Groups/Groupes de Travail/Arbeitsgruppen)</td>
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**Preferred language/Langue préférée/gewünschte Sprache**
- English
- Français
- Deutsch

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Payment of the yearly due of US$ 8 or equivalent will be made:
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Specially interested in the activities of/particulièrement intéressé au activités de/besonders am folgenden Bereichen interessiert:
Subcommissions/Sous-Commissions/Subkommissionen – Chairmen/Présidents/Vorsitzende

A. Salt affected soils/Sols salins/Salzböden
   Dr. I. P. Abrol, Central Soil Salinity Research Institute, Karnal 132001, Haryana, India

B. Soil Micromorphology/Micromorphologie du sol/Bodenmikromorphologie
   Prof. Dr. G. Stoops, Geologisch Instituut, Universiteit van Gent, Krijgslaan 271, 9000 Gent, Belgium

C. Soil Conservation and Environment/Conservation du sol et environnement/Bodenerhaltung und Umwelt
   Dr. K. W. Flach, Soil Conservation Service, U.S. Dept. of Agriculture, P.O. Box 2890, Washington, D.C. 20013, USA

Working Groups of the Commissions/Groupes de Travail des Commissions/Arbeitsgruppen der Kommissionen
   Chairmen/Présidents/Vorsitzende

   Dr. K. E. Lee, CSIRO Division of Soils, P.B. 2, P.O. Glen Osmond, S.A. 5064, Australia.

FT Soil Fertility Trials/Esais de fertilité des sols/Bodenfruchtbarkeitsproben (Comm. IV)
   Prof. Dr. E. von Boguslawski, Versuchsstation Rauisch-Holzhausen, Justus-Liebig-Universität Gießen, 3557 Ebsdorfergrund 4, BRD

   Dr. A. W. Moore, CSIRO Div. of Soils, 306 Carmody Road, St. Lucia, Queensland 4067, Australia

DC Desertification/Désertification/Verwüstung (Subcomm. C)
   Prof. Dr. H. E. Dregne, Texas Technical Univ., P.O. Box 4169, Lubbock, TX 79409, USA

FS Forest Soils/Sols forestiers/Waldböden (Comm. V)
   Dr. R. Saly, Dept. of Soil Science and Geology, Sturova 2, 96001 Zvolen, Czechoslovakia

RB International Reference Base for soil classification/Base internationale de référence pour la classification
des sols/Internationale Referenzbasis für Bodenklassifikation (Comm. V)
   Prof. Dr. E. Schlichting, Institut für Bodenkunde und Standortlehre, Universität Hohenheim, P.O. Box 106, D-7000 Stuttgart-70, BRD

PP Paleopedology/Paléopédologie/Paläopedologie (Comm. V; with/avec/mit INQUA)
   Prof. Dr. D. H. Yaalon, Department of Geology, Hebrew University, Jerusalem 91000, Israel

RS Remote Sensing for Soil Surveys/Pédologie et Télédétection/Fernerkundung für Bodenkartographie
   (Comm. V)
   Dr. S. Bialousz, Ul. Belska, 24M24, 02.638, Varsovie, Poland

LE Land Evaluation/Evaluation des terres/Landbewertung (Comm. VI)
   Prof. Dr. K. J. Beek, I.T.C., P.O. Box 6, 7500 AA Enschede, Netherlands

CO Soil Colloid Surfaces/Surfaces des colloïdes de sol/Kolloidale Oberflächen in Böden (Comm. II)
   Prof. Dr. G. H. Bolt, Dept. of Soil Science and Plant Nutrition, Agricultural University, P.O. Box 8005, 6700 EC Wageningen, Netherlands

EP Engineering Properties of Soils-Pedotechnique/Propriétés constructuelles des sols/Ziviltechnische Eigenschaften von Böden (Comm. VI)
   Dr. G. Wilson, Land Resource Inst. C.E.F., K. W. Nearby Bldg., Ottawa, Ont. K1A OC6, Canada

AS Acid Sulphate Soils/Sols sulfatés acides/Saure Sulfatböden (Comm. V)
   Prof. Dr. L. J. Pons, Dept. of Soil Science and Geology, Agric. University, P.O. Box 37, 6700 AA Wageningen, Netherlands

HP History, Philosophy and Sociology of Soil Science/Histoire, philosophie et sociologie de la science du
   sol/Geschichte, Philosophie und Soziologie der Bodenkunde (Comm. V)
   Prof. Dr. D. H. Yaalon, Department of Geology, Hebrew University, Jerusalem 91000, Israel

MV Moisture Variability of Field Soils/Variabilité en humidité des sols sur le terrain/Veränderlichkei
   von Bodenfeuchtgehalt im Gelände (Comm. I)
   Dr. D. R. Nielsen, Dept. of Water Science and Engin., Univ. of California, Davis, CA 95616, USA

Committee on Rules/Comité du règlement/Satzungskomitee
   Prof. Dr. E. G. Hallsworth (Chairman: University of Sussex, Falmer, Brighton, Sussex BN1 9RF, England);
   Prof. Dr. P. Buringh; Prof. Dr. R. Dudal; Prof. Dr. I. P. Garbouchev; Prof. Dr. E. Schlichting; Prof. Dr. R.
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