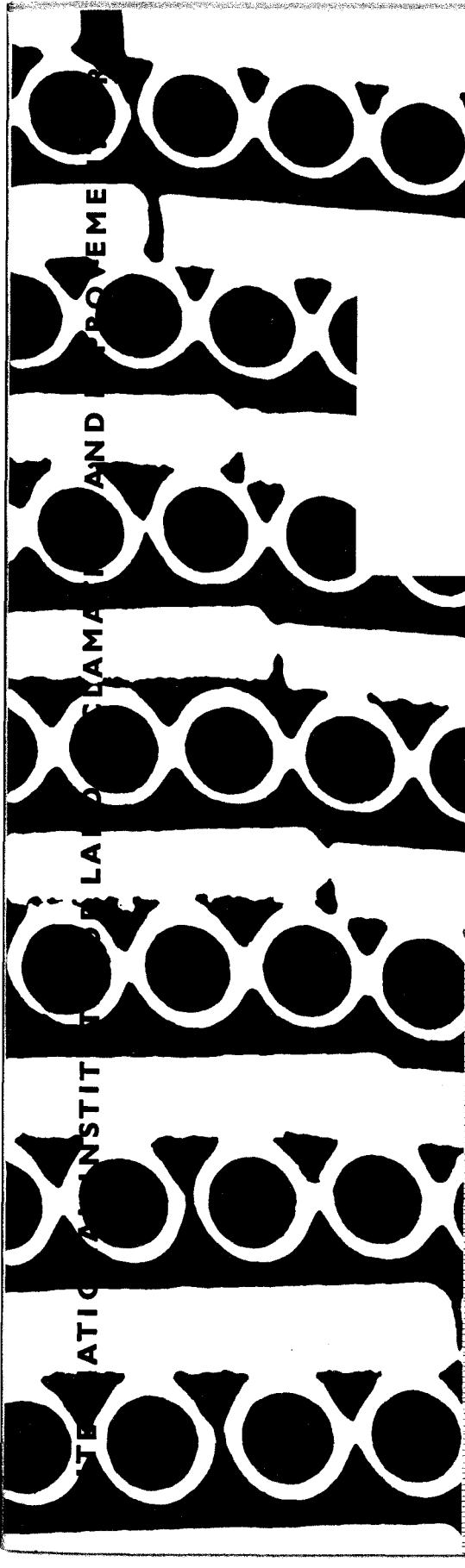


SOIL SURVEY
INTERPRETATION



SOIL SURVEY INTERPRETATION
AN ANNOTATED BIBLIOGRAPHY

Selected references 1972-1960

Compiled by

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INTERNATIONAL INSTITUTE FOR LAND RECLAMATION AND IMPROVEMENT
WAGENINGEN (THE NETHERLANDS) 1975

P R E F A C E

This bibliography was compiled while its author was on a temporary assignment to the Soil Survey Institute of The Netherlands, working there from September 1972 to April 1973. The International Institute for Land Reclamation and Improvement, which, like the Soil Survey Institute, is housed in the Staring Building, Wageningen, has kindly consented to publish this work in its series of bibliographies.

The bibliography contains selected references to the literature on soil survey interpretation. It chiefly covers works published during the period between 1960 and 1972 and, with a few exceptions, is confined to publications in English, French, and German.

Publications often cover more than one topic, in which case they are classified under their principal topic, with a cross reference at the end of each section. The joint library of the Soil Survey Institute and the International Institute for Land Reclamation and Improvement, which is specialized in the fields of water management, soil science, and related subjects, served as the main source of literature.

The following considerations influenced the selection of entries in this bibliography:

the period 1960-1972 was felt to be adequate to cover the most important developments in soil survey interpretation and in current systems;

of authors who have published more than one work on the same subject, only the most recent have been included since it may generally be assumed that earlier publications are cited in the recent ones;

a world-wide coverage has been attempted by incorporating references from all continents.

Journals are abbreviated in accordance with the following conventions:

J.soil Wat.Conserv. 27 (1972) 2 : 78-80, 7 refs.

(*Journal of Soil and Water Conservation*, Volume 27, Year 1972,
Number 2, pages 78-80, number of references 7)

If a publication includes a synopsis (here abbreviated as *Syn.*), the language in which this is given is indicated by the capital letter symbols *E*, *D*, *F*, *G*, *R*, and *Sp*, to mean *English*, *Dutch*, *French*, *German*, *Russian*, and *Spanish*, respectively.

ACKNOWLEDGEMENTS

The author wishes to express his thanks to Drs.Ir.L.F.Abell and Dr.Ir.J.C.F.M. Haans for their guidance in this study and for their keen interest during the course of his work. Thanks are also due to Ir.R.Brinkman for his constant encouragement and support; to Professor Dr.Ir.P.Buringh and Professor Dr.Ir.A.P.A.Vink for their willingness to read the manuscript and for their much appreciated advice; and last but not least, to Dr.S.W.Bie for his critical reading of the manuscript and for his valuable suggestions and comments.

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GENERAL

THEORY, PRINCIPLES, AND BACKGROUND

A A N D A H L , A. R. / Soil survey interpretation. Theory and purpose.
Soil Sci.Soc.Amer.Proc. 22 (1958) 2 : 152-154.

Introductory paper on: purpose, nature and basis of interpretations, productivity, interpretative groupings, requirements and opportunities. The necessity for a multidisciplinary approach and the relative value of interpretations with time are emphasized.

B E C K E T T , P. H. T. and R. W E B S T E R / Soil variability:A Review.
Soils & Fert. 34 (1971) 1 : 1-15, refs. on pp.13-15.

B U T L E R , B. E. / Assessing the soil factor in agricultural production.
J.Aust.Inst.Agric.Sci. 30 (1964) 4: 232-240, 45 refs.

The soil type concept as basis for crop yield correlation studies in predicting the agricultural value of soils has been disputed. The author contends that the establishment of one or two relevant soil properties is a more practical approach. A technique to achieve this end is described.

G I B B O N S , F. R. / Some misconceptions about what soil surveys can do.
J.Soil Sci. 12 (1961) 1 : 96-100, 11 refs.

Relativity of the interpretative value of soil surveys is discussed and two approaches are proposed to enhance this value (general purpose and specific purpose classification).

G U E R A S I M O V , I. P. / Modern Dokuchaev's approach to soil classification and its application to soil maps in the USSR and the World.
Trans.8th Int.Congr.Soil Sci. 5 (1964) : 25-36.

K E L L O G G , C. E. / Soil and land classification.
J.Fm.Econ. 33 (1951) 4 : 499-513.

Theoretical aspects, purpose, and basic requirements of soil and land classification.

K E L L O G G , C. E. / Soil interpretation in the soil survey.
USDA Soil Conserv.Serv., Beltsville, 1961, pp.27.

An explanation of the objectives and theory behind soil survey interpretation. It is addressed mainly to soil scientists and is intended as an introduction or supplement to existing memoranda and handbooks, not as a procedural guide nor as a statement of firm administrative policy ... to show where we stand, what ideas we have developed up to now. (From author's summary.)

K E L L O G G , C. E. / Soil survey for use.
Joint Meet.Comms.IV and V. Int.Soc.Soil Sci.Trans.New Zealand, 1962 : 529-535.

A general account of the essentials and problems of soil survey interpretations.

M U L C A H Y , M. J. and A. W. H U M P H R I E S / Soil classification,
soil surveys, and land use.
Soils & Fert. 30 (1967) 1 : 1-8, 53 refs.

A critical discussion on the fundamentals of the disciplines mentioned in the title.

N O R T H C O T E , K. H. / Some thoughts concerning agronomy and soil classification.
J.Aust.Inst.Agric.Sci. 30 (1964) 4 : 241-246, 20 refs.

The basic requirements for plant growth are considered and then discussed in relation to soils, agronomic soil science, and soil classification. (From author's summary.)

P I E R R E , W. H. / Relationship of soil classification to other branches of soil science.
Soil Sci.Soc.amer.Proc. 22 (1958) 2 : 167-170, 5 refs.

The purpose of this paper is to discuss some of the interrelationships in research within the field of soil science, particularly as they relate to soil classification and the interpretation of research information. (From author's introduction.)

R Y A N , P. / Application of soil survey in related research fields.
Joint Meet.Comm.IV and V. Int.Soc.Soil Sci.Trans.New Zealand, 1962 :
370-376, 2 refs.

An outline of the function of soil survey in providing basic facts.

S o i l Survey Manual.

Soil Survey Staff. US Govt.Print.Off., Washington D.C., 1951, pp.503,
refs. as footnotes with chapters and on pp.443-454.

Contains aspects of importance to soil survey interpretation, especially in the following chapters: Purpose of soil maps and reports (23-42), Yield predictions and Soil management practices (365-395), Soil groupings on the map (403-408), The soil survey report (409-434), and Reconnaissance soil mapping (435-442).

S o i l Survey Interpretation.

USDA Soil Conserv.Serv., Washington D.C., 1955, pp.14. Soil Surv.Memo No.9.

The purpose of this memorandum is to explain the function and organization for developing soil survey interpretations, with special reference to the working relationships of soil scientists and others having a part in the activity. (From editor's introduction.)

W E B S T E R , R. and P. B E C K E T T / Quality and usefulness of
soil maps.

Nature (London) 219 (1968) Aug.17 : 680-682, 7 refs.

A statistical approach to the problem of soil mapping-unit variability.

W I L K I N S O N , B. / Land capability.

Agriculture (London) 75 (1968) : 343-347.

General purposes, criteria, categories, and uses of the land capability classification.

METHODS AND THEIR APPLICATIONS

B E C K E L , A. / The application of soil classification in agriculture, forestry, and other fields in the Federal Republic of Germany.
Joint Meet.Comms.IV and V, Int.Soc.Soil Sci.Trans.New Zealand, 1962 :
388-398, 55 refs.

A review paper on the uses and possible applications of soil maps in research and practice.

B E C K E T T , P. H. T., R. W E B S T E R , G. M. M c N E I L and
C. W. M I T C H E L L / Terrain evaluation by means of a data bank.
Geogr.J. 138 (1972) 4 : 430-456, 62 refs.

A data bank is described, to equip engineers and land planners to appraise terrain conditions over wide areas from which, for one reason or another, existing information is sparse. Many terrain classifications have been proposed for this and allied purposes;extravagant claims have been made for some. There are very few of which the efficacy has been subject to any validly objective test.The main part of this paper presents the terrain classifications proposed as indexes to regional data banks, and the preliminary results from practical trials of their efficacy. (From author's summary.)

B I E , S. W. and A. U L P H / The economic value of soil survey information.
J.Agric.Econ. 23 (1972) 3 : 285-297, 43 refs.

Claims for the general economic benefits of soil maps as planning tools have remained largely unsubstantiated. This study offers a method of assessing the value of the information provided by a soil map. Its value depends on the quality of the map, and on the difference in payoffs between alternative management practices. Using only data normally available to agricultural planners, the value of a map may be calculated before its survey. (From author's summary.)

B L A C K B U R N , G. / The uses of soil classification and mapping in Australia.
Joint Meet.Comms.IV and V. Int.Soc.Soil Sci. Trans. New Zealand,
1962 : 284 - 290, 38 refs.

A review article.

B O N F I L S , P. , M. B O R N A N D , G. C A L L O T et al. / Les Soils dans le Paysage et leur Aménagements. Méthodologie, Cartographie et Travaux du Service d'Etude des Soils, INRA, Montpellier.
Centre Rech.Agric., Ecole Nat.Sup.Agric.Montpellier. 1972, pp.174, refs. on pp.154-174. S.E.S. No.175.

The soils in the landscape and their management. Methodology, cartography, and activities of the Soil Survey Service, Nat.Inst.Agric.Research, Montpellier. First part of the third section explains the background, principles, and problems of the pedological interpretation systems used both for agricultural and non-agricultural purposes. Legend examples are included.

B R I N K M A N , R. and A. J. S M Y T H (Eds.) / Land evaluation for rural purposes. Summary of an Expert Consultation. Wageningen, The Netherlands, 6 - 12 October 1972.
Int.Inst.Land Reclam.Improv., Wageningen, 1973, pp.116. Publ.17.

Expert consultation on land evaluation for rural purposes. Background document.
FAO, Rome/Wageningen, 1972, pp.110, refs. with sections.

First part (pp.1-34) is a background document containing proposals for the standardization of methodology and terminology. Second part (pp.35-109) "Appendix A: Some existing systems of land evaluation and classification" gives a summary of the most important methods and approaches used in different parts of the world.

G A L L U P , D. L. et al. / Soil survey interpretation handbook for north-east Thailand. Part I: Soils and their uses.
Land Developm.Dep.Minist.Nat.Developm., Bangkok, 1967, pp.36, 7 refs.
Soil Surv. Rep. No. 59.

Comprises information for workers in different scientific fields. Chapter VIII deals with the two engineering interpretation systems as adapted to local use.

G I B B S , H. S. and M. L. L E A M Y / Soil survey interpretation in New Zealand.
Trans.9th Int.Congr.Soil Sci.,Adelaide,IV(1968):235-241,19 refs.Syn.:E,F,G.

Purpose, requirements, techniques, and applications of interpretations.

H A A N S , J. C. F. M. and G. J. W. W E S T E R V E L D / The application of soil survey in The Netherlands.
Geoderma 4 (1970) 3 : 279-309, 22 refs.

This section of Geoderma's special issue (containing contributions from staff of the Soil Survey Institute, Wageningen/The Netherlands) reviews and describes the various kinds of soil survey interpretations dependent on soil use intention (agriculture, horticulture, rural development, arable and grassland farming and reconstruction, urban area development, pipe line construction etc.).

H I L L , D. E. and A. E. S H E A R I N / The Charlton soils.
Conn. Agric. Exp. Sta., 1969, pp. 50, 31 refs. Bull. No. 706.

This is an example of the series of benchmark soil reports. The practical application of soil interpretation systems as developed in the USA for use in agriculture (estimated crop yields, soil capability classification), engineering (road construction), and urban areas (planning, sanitation, etc.), demonstrated by text and tables.

H U D S O N , N. / Soil Conservation.
BT Batsford Ltd., London, 1971, pp. 320., refs. with chapters.
Chapter 9: Land management (147-178). Essentials of the land capability classification and its modifications, used in other countries than the USA.

This chapter includes a list of selected references to classification systems in different countries.

M'c H A R G , I. L. / Design with nature.
The Natural History Press, Garden City (N.Y.), 1969, pp. 197.
Contains suggestions for forms of interpretative presentations.

M A R I N - L E F L E C H E , A. / Le classement des terrains.
Ann. Agron. 23 (1972) 1 : 5-30, 32 refs. Syn.: F, E, G, R.

Land classification. Many systems have been proposed to classify soils according to their suitability or capability. This article discusses the principles, purposes, functions, and problems of the main representatives of these methods. Detailed examples of the USDA/SCS-system and the method used by the Israel Soil Conserv. Serv. Dep. are annexed.

N Ě M E Ā K , J. - J. D A M A Š K A / Metody agronomické interpretace
výsledků mapování půd.
Inst.Sci.Techn.Inform., Praha, 1971, pp.92, 130 refs. Text in Czech. Syn.:E.

Review of recent developments on methods of agronomical interpretations of
soil mapping in the world. Included since it contains references to East
European countries.

N O R R I S , J. M. / Multivariate methods in the study of soils.
Soils & Fert. 33 (1970) 4 : 313-318, 34 refs.

Multivariate methods are useful in many aspects of the study of soil because
of the complexity of soil-property relationships and the large quantities of
data often available. They are used to generate hypotheses about the reasons
for variation in these complex sets of data and also, in some cases, as sta-
tistical, testing techniques. Several multivariate methods are described, in-
cluding numerical classification, ordination, multiple-discriminant analysis
and canonical correlation, with examples of their use. Future applications
not yet in the literature are discussed. (From author's summary.)

R A Y C H A U D H U R I , S. P. and R. S. M U R T H Y / Land classification
for agricultural development.
Soils & Fert. 23 (1960) 4 : 235-240, 42 refs.

A brief review of methods used in various countries.

S M I T H , G. D. / Soil classification.
Pedologie, 1965. No.4 (spec.issue), pp.134.

Alternative applications of soil surveys are outlined on pp.8-12.

S M I T S , H. and A. J. W I G G E R S / Soil Survey and Land classifi-
cation as applied to Reclamation of sea bottom land in The Netherlands.
Int.Inst.Land Reclam.Improv., Wageningen, 1969, pp.60, 12 refs. Publ.No.4.
Syn.: E, F, G, Sp.

A historical review and a discussion of the principles of soil survey
and soil classification, with a description of the use of soil surveys
for the change from land under water to the utilisation of newly-won
land.

S T E E L E , G. J. / Soil Survey Interpretation and its use.
FAO, Rome, 1967, pp.68, 34 refs. Soils Bull.No.8.

Some soil survey interpretation methods are discussed and illustrated by examples from practice. Ample attention is devoted to background and principles, data compilation for key soils, suitability ratings for crops, capability grouping, crop yields under defined management; soil survey interpretation for range management, woodland management, and engineering uses; soil maps for town and country planning, for appraisal of land; interpretations of general soil maps.

S T E W A R T , G. A. (Ed.) / Land evaluation.
Macmillan Australia, Melbourne, 1968, pp.392, refs. with the papers.

Papers presented at the symposium on Land Evaluation held in Canberra, Australia, 26-31 August 1968, the aim of which was to "explore the potential of recent advances in science and technology for land evaluation". Headings: Principles of land classification (6 papers), Land evaluation reviews and case studies (8 articles), Data handling and interpretation (5 papers), Land parameters (7 papers), Sensors for land parameters (6 articles).

S T O B B S , A. R. / Soil survey procedures for development purposes.
World Land Use Surv.Occ.Pap. 9 (1970) : 41-63.

T Y U R I N , I. V. et al. (Eds.) / Soil Survey. A guide to field investigations and mapping of soils.
Israel Program Scientific Translations. Jeruzalem, 1965, pp.356., refs. with chapters.

Translation of the official Soviet Soil Survey Manual. Part II (pp.171) of the present handbook deals with aspects and methods of soil mapping for specific purposes (land management, agricultural planning, reclamation, improvement for irrigation, forestry, soil science).

V I N K , A. P. A. / Aspects de Pédologie appliquée.
A la Baconnière, Neuchatel (Suisse), 1963, pp.174, refs. with the sections.

Aspects of applied pedology. "La classification des terres" (land classification pp.60-97) discusses land classification from different view-points and practical concepts of soil survey interpretation.

V I N K , A . P . A . and H . S . G I B B S / National and International Soil
Resources Maps.
Joint Meet.Comms.IV and V, Int.Soc.Soil Sci.Trans. New Zealand,1962:876-879,
9 refs.

A general account on the significance of soil maps and how they can be
employed in practice.

A G R I C U L T U R E
GENERAL ASPECTS AND METHODS

A H N , P. M. / West African Soils.

Oxford Univ.Press, London, 1970, pp.332, 338 refs.

Practical local classifications, land capability classifications, and soil classification for irrigated agriculture (pp.221-226).

A V E R Y , B. W. / Soil type and crop performance.

Soils & Fert. 25 (1962) 5 : 341-344, 22 refs.

A review of problems **and** approaches (methods) in investigating soil type/crop relationships with a view to predicting crop behaviour in agriculture. Discusses results of some important studies in various countries.

B E E K , K. J. and R. C O S T A D E L E M O S / Suitabilities of soils and environment for agricultural production.

FAO, Rome, 1965, pp.22, 3 refs. MR/47366.

Soil data together with information on topography and climate at a mapping scale of 1:2,500,000 have been interpreted for East Africa in terms of crop production suitabilities at traditional and modern management level.

B E N N E M A , J. , K. J. B E E K and M. C A M A R G O / Soil survey interpretation in Brazil. A system of land capability classification for reconnaissance surveys (first draft).

DPFS/FAO, Rio de Janeiro, 1964, pp.54.

Interpretation of soil and other environmental attributes relevant to agricultural use: soil conditions, management systems (from primitive to modern) and their relations to agricultural soil conditions. Separate land classifications for each of the six management systems distinguished.

B E R C E , J. M. / Le classement des terres lors du remembrement légal de biens ruraux.

Pédologie 20 (1970) 2 : 153-177. Syn.: F, D, G, E.

Land classification for re-allotment purposes. A method to derive a land capability map from soil maps and capability indexes for various soils and crops.

B I B B Y , J. S. and D. M A C K N E Y / Land use capability classification.
Rothamsted Exp.Sta., Harpenden/Herts, 1969, pp.27, 10 refs. Soil Surv.
Techn.Monogr.No.1.

A modified USDA/SCS-land capability classification system as used by the Soil Surveys of England, Wales and Scotland has been described: assumptions, capability classes (seven in total), subclasses (criteria: wetness, soil limitations, gradient and soil pattern, erosion, climate), units (behaviour under agronomic practices), guidelines for recognition of capability classes and map symbols. Landscape photographs on which the system is demonstrated and a diagram showing how climatic data are used as classifying criteria are appended.

B R A M A O , L. and J. R I Q U I E R / Soil resources appraisal for development.
Ann.Edafol.Agrobiol. 26 (1967) 1/4 : 865-878, 21 refs. Syn.: Sp, E.

This paper explains an interpretative method which attempts to evaluate soils quantitatively in terms of soil productivity (actual value) and soil potentiality (value after treatment) by determining respectively the indexes p and pl. The p (productivity) and pl (potentiality) are calculated from a multiplication formula, the factors of which represent the relevant soil characteristics. Ratings of the various factors are tabulated.

B U R I N G H , P. / Introduction to the study of soils in tropical and sub-tropical regions.
PUDOC, Wageningen, 1970, pp.99, refs. with chapters.

Each chapter includes a section on agricultural evaluation of soils in general terms.

C A L L O T , G. / Méthode d'appréciation et de classement des terres de Causse en vue du défrichement. Un exemple sur les Causses Sud-Aveyron.
Ann.agron. 23 (1972) 2 : 145-163, 9 refs. Syn.: F, E, G.

Method of evaluation and classification of the Causse soils for land clearing purposes. Example in the Southern Aveyron Causses. The following factors are considered in evaluating the calcareous soils of the region: topography, parcel type and outcrop frequency (technical); stoniness, soil nature and depth (agronomic); vegetation cover, former occupation type, accessibility and remoteness (environmental); costs and rentability (economic). The economic aspects of land clearing for agriculture are demonstrated by a practical example.

C L A R K E , G. R. and P. H. T. B E C K E T T / The study of soil in the field.

Oxford Univ.Press, Ely House, London, 1971, pp.141, 47 refs.

In Chapter 6 "Some systems of soil evaluation", Fackler's (Bonität-Scala) and Clarke's (soil profile value) numerical methods and Kreybig's pedochemical method of classifying the agricultural value of soils are explained.

C O C H A R D , B. and J. P. D E F F O N T A I N E S / Essai de classement des terrains en Aunis pour leur utilisation agricole.

Ann.agron. 21 (1970) 6 : 759-775, 5 refs. Syn.: F, E, G, R.

An attempt to classify land in Aunis for agricultural use. Soil aggregate size was used to classify selected calcareous clay soils in Charente-Maritime under cereals, sunflower, and lucerne. The suitability of using this concept as a basis for soil management and use is discussed.

C O U L T E R , J. K. / Soil surveys and their application in tropical agriculture.

Trop.Agric. (Trinidad) 41 (1964) : 185-196, 25 refs.

Considers aspects of soil survey in relation to use and improvement of soils in tropical agriculture.

D A S M A N N , R. F. / Environmental Conservation.

John Wiley & Sons Inc., New York, 1968, pp.375, refs. with chapters.

Chapter 5 "Agriculture and soil" (pp.126-128) refers to land classification and soil use. A modified form of the U.S. Soil Conservation Service land capability classification system is presented in Table 7 (p.127). All classes distinguished are visualized in a photograph (Fig.62) on page 128.

D U R A N D , J. H. / Prospection pédologique a but agronomique: techniques utilisables pour dresser les cartes de mise en valeur des sols.

Agron.trop.Paris 20 (1965) 12 : 1270-1283.

Soil survey for agricultural purpose: techniques used in the preparation of soil suitability maps. Method used is based on soil and environmental factors. Interpretation for agriculture, with and without irrigation, is based upon numerical evaluation of agricultural quality, slope, relief, and management requirements.

E H W A L D , E. / Probleme der Erfassung der Standortverhältnisse der Deutschen Demokratischen Republik und ihrer Auswertung.
Dtsch.Akad.Landw.Sitzungsber. 15 (1966) 16 : 1-35, 74 refs. Syn.: G, E, R.

Problems of soil and site surveys in the German democratic Republic and their interpretation. Problems in relation to a proposed soil survey method (based upon "Bodenformen", characterized by genetic soil type and parent material) as well as questions of soil survey interpretation for agronomy, amelioration, agricultural planning, and differential rent compensation are discussed.

E H W A L D , E. / Die Großmaßstäbliche landwirtschaftliche Boden- und Standortskartierung und ihre Auswertung.
Dtsch.Akad.Landw.Sitzungsber. 6 (1968) 6, pp.70.

Large-scale agricultural soil and site mapping and its interpretation.

F I N C K , A. / Tropische Böden.
Verlag Paul Parey, Hamburg/Berlin, 1963, pp.188, refs.with chapters.

Tropical soils.Aspects of soil evaluation in humid and arid tropical regions, with special reference to Africa (Chapter 9 on pp.171-180).

F i r s t North American Forest Soils Conference.
Mich.Agric.Exp.Sta., 1958, pp.226, refs.with the papers.

A collection of 31 papers dealing with various aspects of soil-wood crop relations and soil survey interpretations in forestry.

F O T H , H. D. and L. M. T U R K / Fundamentals of soil science.
John Wiley & Sons Inc., New York, 1972, pp.454, refs. given as footnotes with chapters.

On p.360 an outline of the land capability classification system (USDA/SCS) and on p.398 (soil properties of importance in irrigation) a guide for allocating irrigated soils to land capability classes.

F R E I , E. et al. / Bodenkarten unterstützen Meliorationen, Bonitierungen und Planungsarbeiten.
Mitt.schweiz.Landw. 17 (1969) 12 : 197-208.

Soil maps as aids to soil improvement, appraisal, and planning. Discusses the use of soil maps for agricultural purposes (fertility ratings, evaluation of possible cultures, soil suitability classification). Eight fertility classes are described and a scheme to determine the relative value of soils is given.

F R I D L A N D , V. M. and G. I. G R I G O R ' Y E V / Soil productivity groupings and their importance for improving the utilization of land resources.

Sov.Soil Sci. (1967) 8 : 997-1009, 10 refs.

Considers the principles of soil survey interpretation for agricultural purposes in the form of productivity soil groupings, land type groupings and analytical cartograms.

H O C K E N S M I T H , R. D. / Soil surveys for planning economic development.

Proc.Pan-Amer.Soil Cons.Congr., Sao Paulo, 1966, pp.301-306.

H O F F M A N , D. W. / The assessment of soil productivity for agriculture. Dep.Land Resour.Sci.Univ.Guelph, Dep.Envir./Dep.Agric.Food, Ontario, 1971, pp.51, 81 refs. ARDA-Report No.4.

A mathematical model (factor analysis, multiple regression, analysis of variance) for predicting yield of corn, oats, and barley for different soil classes.

H O O R E , J. L. D' / La carte des sols d'Afrique au 1:5,000,000. Mémoire explicatif.

Comm.Coop.Techn.Afr., Lagos, 1964, pp.209, refs.with chapters. Publ.No.93 (Project conjoint No.11).

Soil map of Africa, scale 1:5,000,000. Explanatory monograph. Soils are described and their agricultural value indicated.

K I L I A N , J. / Etude pédologique des Baibos de la Bemarivo.

Agron.trop. (Paris) 19 (1964) 11 : 996-1017. Syn.: F, E, Sp.

Included as an example. Section III: "La mise en valeur agronomique." On the basis of local environmental conditions (alluvial soils, the agricultural suitability of soils is determined by soil texture and groundwater conditions.

K L I N G E B I E L , A. A. / Soil survey interpretation. Capability groupings.
Soil Sci.Soc.Amer.Proc. 22 (1958) 2 : 160-163, 8 refs.

Discusses the criteria and assumptions underlying the method of interpretative soil grouping generally used by the Soil Conservation Service (USA). The system, known as the "land-capability classification", furnishes soil information at class, subclass, and unit level. Eight classes are distinguished. The procedure of developing capability groupings is described and their applications at different levels indicated.

K L I N G E B I E L , A. A. and P. H. M O N T G O M E R Y / Land-capability classification.
USDA Soil Conservation Serv., 1961, pp.21. Agric.Handb.No.210.

This interpretative system, developed by the Soil Conservation Service of the USA, is based upon the limitation principle. It provides physical information on three different levels of generalization: capability class (I-VIII, indicating increasing use limitations), subclass (according to dominant limitation: erosion, water, effective depth, climate), and unit (on basis of similar soil characteristics, properties, behaviour under management, etc.). Assumptions and criteria used in grouping soils are defined and discussed. This booklet also includes a table showing the relationship of soil-mapping units to the capability classification, a short note on other soil interpretation forms, and a glossary.

K R A N T Z , B. A. / Soil survey interpretation - interpretation of soil characteristics important in soil management.
Soil Sci.Soc.Amer.Proc. 22 (1958) 2 : 155-156, 5 refs.

L E E S O N , B. and The Soil Sci.Dep.Ontario agric.Coll.Univ.of Guelph /
An organic soil capability classification for agriculture and a study of the organic soils of Simcoe county.
Dep.Regional Econ.Expans.Dep.Agric.Food,Ontario,1969,pp.82,60 refs. ARDA-Rep.

L I E B E R O T H , I. / Wichtige Bodenformen in den Mittel- und Nordbezirken der Deutschen Demokratischen Republik und das Problem ihrer landwirtschaftlichen Kennzeichnung.
Dtsch.Akad.Landw.Sitzungsber. 17 (1968) 2, pp.27, 17 refs. Syn.: G, R, E.

Principal soil forms in the central and northern counties of the German Democratic Republic and the problem of their agricultural identification. The basis for agricultural evaluation of soils is "soil forms" from which fertility and management-determining properties are derived. The main characteristics/properties of the principal soil forms are given and their agricultural value indicated. In judging the agricultural value the structure of the soil cover also has to be considered.

L I E B E R O T H , I. / Bodenkunde. Bodenfruchtbarkeit.
VeB Deutscher Landwirtschaftsverlag, Berlin, 1969, pp.336, refs.on pp.321-328.

Soil Science. Soil Fertility. Handbook on pedology. Relevant part of this book is subchapter 3.5 (pp.170-198) entitled "Kartierung und Bewertung der Böden" (Soil survey and soil appraisal).A review on progress in soil survey and interpretation practices in the German Democratic Republic.

M c C O R M A C K , R. J. / Land capability classification for forestry.
The Canada Land Inventory/Minist.Regional Econ.Expans.Ottawa, 1970, pp.72.
Rep.No.4.

M A H L E R , P. J. (Comp.) / Manual of multipurpose land classification.
Soil Inst.Iran, Minist.Agric./FAO, 1970, pp.81, 28 refs. Publ.No.212.

This tentative system, mainly for agricultural purposes, is based upon the classification system for irrigated agriculture used in Iran and results from local experience. Subjects discussed are: basic objectives, principles and assumptions, general criteria and basic procedures, definitions of land classes and levels of land improvement requirements, guidelines for the assessment of land potentialities and land capabilities.

O B E N G , H. B. / The major soil groups of Ghana and their potential for
agricultural development.
J.Ass.Advanc.Agric.Sci.Africa 1 (1971) 1 : 19-27.

O D E L L , R. T. / Soil survey interpretation - Yield prediction.
Soil Sci.Soc.Amer.Proc. 22 (1958) 2 : 157-160, 4 refs.

Short paper discussing methods of predicting crop yields. Typical accuracy limits for crop yield estimates and illustrations of possible combinations of crop yield data from different sources with reference to response curves and productive capacity of soils.

P O N S , L. J. and W. van der K E V I E / Acid sulphate soils in Thailand.
Studies on the morphology, genesis, and agricultural potential of soils
with cat clay.
Land Developm.Dep. Min.nat.Developm.Bangkok, 1969, pp.65, 33 refs. (& rep.
refs.80). Soil Surv.Rep.No.81.

Heading VI: "Practical implications". Guidelines to management practices
in using acid sulphate soils for agriculture.

P O S P E L O W A , G. / Neuere Vorschläge zur Bodenbewertung in der Sowjetunion.

Z.Acker- u.PflBau. 126 (1967) 3 : 279-292, 34 refs. Syn.: G, E.

Recent advances in soil evaluation in the Soviet Union. A review article on proposed methods of soil appraisal. All methods follow the same basic approach, expressing the soil value in quantitative terms (Itoloo scale) by considering soil characteristics and crop production figures.

P R I E S T , T. W. , E. P. W H I T E S I D E and W. H. H E N E B E R R Y / Use of soil management groups and related information in evaluation of farmlands and their utilization.

Soil Sci.Soc.Amer.Proc., 27 (1963) 3 : 335-339, 13 refs.

A method by which soil management groups (based on soil properties) and related information (soil use, soil productivity, crop cost and prices) can be used to arrive at equitable farm land evaluation (from authors' summary).

R A Y C H A U D H U R I , S. P. / Interpretative soil groupings-prediction of soil behaviour and practical use of soil maps.

J.Indian Soc.Soil Sci. 16 (1968) 3 : 205-213.

For a standard approach to soil mapping in India the author has proposed 28 soil classes at World Soil-Group level (Int.Soil class.) and at Order level a grouping according to the zonality principle. Agronomic use interpretations in the form of: (1) Interpretative soil productivity groupings and (2) Prediction of soil behaviour under defined management conditions are recommended.

R E N N I E , P. J. / Methods of assessing forest site capacity.

Joint Meet.Comms.IV and V, Int.Soc.Soil Sci.Trans.New Zealand, 1962 : 770-785 pp., refs. on pp.782-785.

This paper also includes a review of the usefulness and meaning of soil survey data as an integral part of forestry interpretations.

R E N N I E , D. A. and J. S. C L A Y T O N / The significance of local soil types to soil fertility studies.

Can.J.Soil Sci. 40 (1960) : 146-156.

R I E C K E N , F. F. / Some aspects of soil classification in farming.
Soil Sci. 96 (1963) 1 : 49-61, 50 refs.

The significance of soil classification in agricultural practice is shown by reviewing various aspects of soil survey interpretation: soil-plant relationship, vertical and horizontal application of technology, management, area characterization. Table illustrations elucidate this article.

R I Q U I E R , J. , D. L. B R A M A O and J. P. C O R N E T / A new system of soil appraisal in terms of actual and potential productivity (first approximation).
FAO Soil Resour.Developm.Conserv.Serv.Land Wat.Developm.Div., 1970, pp.38, 59 refs. AGL:TESR/70/6.

After a critical discussion on the most important land classification systems currently in use, a new method is proposed. Nine basic soil factors have been selected for a numerical system: the productivity index (actual soil value). Soil potential is determined by a "potentiality index" calculated by application of corrections in the 9-factor formula of the productivity index. Annexes include working tables and practical examples. The method is based upon the mathematical approach developed by Storie.

R I Q U I E R , J. and D. C. S C H W A A R / Parametric approach to soil and land capability classifications.
Proc.Second Asian Soil Conf., Djakarta, 1972.

R O W E , J. S. / Soil, site and land classification.
For.Chron.38 (1962) 4 : 420-432, 46 refs.

R U S S E L L , E. W. / The use and limitations of soil and vegetation surveys in agricultural development projects.
Rep.Tech.Conf.Directors Agric. (London), Dept.of Techn.Cooperation.
Misc. 2 (1962) : 26-31 pp.

S O E K A R D I , M. / Review of land classification systems.
Soil Res.Inst.Bogor (Indonesia), 1971, pp.37, 30 refs.

A review of the most important land/soil capability/suitability systems for agricultural purposes.

S T O R I E , R. E. / Revision of the soil-rating chart.

Calif.Agric.Exp.Sta., 1959. Leaflet 122.

The leaflet is a revision of earlier issues of the soil-rating chart (1933, 1937). This soil-rating method (Storie-Index) is based on soil attributes influencing land's potential, utilization, and productive capacity. The Storie Index is determined by multiplication of ratings (percentage values) of four soil factors: factor A relates to soil profile, factor B to surface texture, factor C to slope, and factor X to other conditions. Californian soils are graded into six classes in accordance with index-ratings.

S T R Z H E M S K I , M. / Evaluation of soils of arable lands in the Polish People's Republic.

Soviet Soil Sci. (1966) 8 : 881-885.

Gives a general outline of the principles of the system and describes the eight classes into which arable soils are grouped. The specific agricultural suitability of the soils is indicated.

S Y S , C. / Landklassifikatie: principe en methode in functie van milieu en doelstelling.

Ingenieursblad 33 (1964) 8 : 429-434, 2 refs. Syn.: D, F, E, G.

Land classification: principle and method as function of environment and purpose. The author emphasizes the importance of the soil map as the base for any land classification project, but states that environmental aspects, farm structure, and economic factors greatly affect soil suitability.

T A Y C H I N O V , S. N. / A method for rating soil quality.

Soviet Soil Sci. 3 (1971) 1 : 40-49, 8 ref.

The author discusses aspects of importance in assessing soil quality and failings of the existing methods, techniques, and approaches. A method for differentiated soil rating is proposed based on functional relationships (mathematically determined) between diagnostic soil characteristics (properties) and soil productivity (experimentally and otherwise determined). Soil quality is assigned according to a 100-point system with strictly regional significance. As an example, the method was applied to Bashkir soils and compared with Dokuchaev's system.

V A R A L L Y A Y , G. and L. S Z U C S / Genetische Bodenkarten großen Maßstabes angewandt in der Landwirtschaft.

Trans.8th Int.Congr.Soil Sci.Bucharest, 1964. Vol.V:785-793,10 refs.Syn.:G,E,F.

Large-scale genetic soil maps used in agriculture. A Hungarian method using cartograms is described.

V I N K , A. P. A. / Quantitative aspects of land classification.
Trans.7th Int.Congr.Soil Sci.Madison, 1960, Vol.V:371-378, 11 refs.
Syn.: E, F, G.

Theory of soil classification systems and a quantitative approach to soil suitability classification in The Netherlands, using a formula to determine the "rate of suitability".

V I N K , A. P. A. / Die Interpretation von Bodenkarten für landwirtschaftliche Zwecke.

Albrecht-Thaer-Archiv 11 (1967) 11 : 1021-1030, 20 refs. Syn.: G, R, E.

Interpretation of soil maps for agricultural purposes. An outline is given of the major problems and possibilities of interpreting soil maps for agricultural practice. Emphasis has been laid on the various variants of land classification and on the factors likely to determine the suitability of different soils for agricultural use. (From author's summary.)

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DIFFERENT REGIONAL APPLICATIONS

A S H R A F , M . , R . B R I N K M A N and M . A L I M M I A N / Land capability classification in West Pakistan.
Cent.Soil Res.Inst., Lahore-Dacca, 1970, pp.2, 2 refs.Pakist.Soils Bull.No.1.

After a short explanation of the land capability classification system, this bulletin contains three tables listing by land capability subclasses, the main soil characteristics, limitations (problems and hazards), and specific development possibilities. (From authors' summary.)

B o d e m k a a r t van Nederland.
Schaal 1:50.000. Toelichting bij de kaartbladen (1964-).
Stichting Bodemkart. Wageningen.

Soil map of The Netherlands. Scale 1:50,000. Explanation to the sheets. The explanatory memoranda contain a concluding chapter on soil suitability evaluation for arable land and grassland.

B R A M M E R , H . and R . B R I N K M A N / A land capability classification for use in East Pakistan.
Pakist.J.Soil Sci.III (1967) 1 : 10-16, 3 refs.

The USDA/SCS-land capability classification system as adapted to Bangladesh conditions for agriculture at traditional and modern levels of management. Five classes have been distinguished and their subdivisions and applications indicated.

(The) C a n a d a Land Inventory / Soil capability classification for agriculture.
Dep.regional econ.Expans., Ottawa, 1965, 16 pp. Rep.No.2.

The system as applied in Canada is based on the principles of the USDA-system and consists of two main categories: class and subclass. Examples are given by photographic illustrations on which units have been delineated.

C Ă R S T E A , S . / Utilization of soil surveys in land capability classification for various agricultural uses.
Trans.8th Int.Congr.Soil Sci., Bucharest, 1964,vol.V:847-852,6 refs.Syn.:E,F,G.

The USDA/SCS-system has been basically followed, but the total number of classes is extended to ten to suit local agricultural needs (wood, hayfield, pasture, vineyard, orchard, and arable farming) in Romania.

C H U N S O O C H I N / Land suitability classification.

Soil Surv.Div.Inst.Plant Envir./Off.rur.Developm.Suwon/S.Korea, 1971, pp.16.

Four suitability groups are distinguished, based on soil and environment. Subgroups are determined by dominant limiting factor. Tables with rating criteria are included. The system has been applied to wetland rice, upland crops, orchards and mulberry culture, woodland, pasture (hay) and overall evaluation of land.

C U T L E R , E. J. B. / Soil capability classification based on genetic soil map.

Joint Meet.Comms.IV and V.Int.Soc.Soil Sci.Trans.New Zealand,1962:743-748, 2 refs.

Defines the five classes (degree of limitations), subclasses (kind of limitations), and further subdivisions (moisture regime, altitude, topography) of the pedological system to classify soils according to their use potentials (in Otago and Southland/New Zealand).

D E N T , F. J. / General land suitability for crop diversification in peninsular Thailand.

Land Developm.Dep.Minist.Nat.Developm.Bangkok, 1969, pp.49, 14 refs. (& 75 rep.refs.). Soil Surv.Rep.No.76.

An appraisal of soil and land resources for many tropical crops based mainly on knowledge and experience of the physical interrelation between soil and crops. Important criteria used for the assessment of soil suitability for different crops are tabulated separately.

D E W A N , M. L. and J. F A M O U R I / The soils of Iran.

FAO, Soil Inst.Minist.Agric.Iran, 1964, pp.319, 50 refs.

Chapter 4: Interpretation. Use, and Management of the Soils. A system based on ten soil management groups is described, following the limitation-concept.

G A R D I N E R , M. J. and P. R Y A N / A new generalised soil map of Ireland and its land-use interpretation.

Irish J.Agric.Res. 8 (1969) : 95-109, 15 refs.

The map has been published at scale 1:575,000 and interpreted in terms of land-use capabilities (suitability for different agricultural uses) on the base of degree, kind, and number of limitations.

G O V I N D A R A J A N , S. V. and H. G. G O P A L A R A O / Soil and crop productivity.

Asia Publ.House, London, 1971, pp.313, refs.with chapters.

Agricultural Handbook for India. Chapter VII (pp.85-97) covers the subject of land classification for rural purposes. Eight groups (classes) are defined and any explanation is given of further subdivision into subgroups and units. The relationship between soil factors, land features, and capability groups is tabulated.

H E D G E , A. M. and A. A. K L I N G E B I E L / The use of soil maps.

In: Soil. The 1957 yearbook of agriculture (pp.400-411). USDA, Washington D.C., 1957, pp.784.

This article illustrates how soil maps and capability maps have been used to develop a conservation farm plan and ranch plan as a guide for farming/ranching operations.

H E S L O P , R. E. F. and C. J. B O W N / The soils of Candacraig and Glenbuchat.

The Macaulay Inst.Soil Res., Aberdeen, 1969, pp.116, 19 refs. Soil Surv. Scotland Bull. No.1.

Chapter VI: Land capability (pp.74-85). A modified system of the land capability classification of the USDA, using three levels of generalization. Information on climate and topography together with soil data form the basic elements in grouping soils according to their suitability for various crops and management practices.

K R U P S K Y , N. K. / Large-scale soil survey in the Ukraine and utilization of its data in agriculture.

Trans.Comms.IV and V. Int.Soc.Soil Sci., New Zealand, pp.540-542.

L Å G , J. / Some investigations on the productivity of forest soils in Norway. Acta Agric.Scand. 11 (1961) : 82-86.

L E A M Y , M. L. / The correlation of soil classification and soil capability in the Upper Clutha Valley, Otago, New Zealand.

Joint Meet.Comms.IV & V,Int.Soc.Soil Sci.Trans.New Zeal.,1962:749-754,5 refs.

Part of this paper deals with the assessment of soil capability based on Storie's Rating-Index.The relationship of kind of soil to agricultural potential (dryland and irrigated) in relation to climate has been tabulated.

L E E , J. and S. D I A M O N D / The potential of Irish land for livestock production.

Nat.Soil Surv.Ireland, An Foras Talúntais, Dublin. 4 (1972), pp.59, 46 refs.
Soil Surv.Bull.No.26.

Based on soil survey information (represented on the generalized soil map and a number of more detailed soil maps), and on the results of experiments on grass and animal production (dairy cows, beef cattle, and sheep) on selected soils throughout the country, interpretations have been made in terms of grazing capacity for the whole country (1:1 m) and in more detail (1:0.25m) for four counties. Important aspects such as livestock density, trends in livestock numbers, fertilizer and farm size requirements, are considered.

M O O R M A N N , F. R. / The soils of the Republic of Vietnam. A reconnaissance survey with general soil map and description of the major soils in relation with their agricultural use and potential.

Minist.Agric.Saigon, 1961, pp.66. text in E and F.

Agricultural land use and potential are tabulated in general terms in Chapter IV.

M U R T H Y , R. S. , S. P. J A I N and S. R. N A G A B H U S H A N A / Soil survey and land capability classification for sound watershed management in Kundah Project (Madras).

J.Indian Soc.Soil Sci. 16 (1968) 3 : 223-227.

The land capability classification leads to nine classes and subclasses. Suitable measures have been suggested for soil conservation and proper land use planning. (From authors' summary.)

O B E N G , H. B. / Land capability classification of the soils of Ghana under practices of mechanised and hand cultivation for crop and livestock production.

Trans.9th Int.Congr.Soil Sci.Adelaide, Vol.IV (1968) : 215-223, 1 ref.
Syn.: E, F, G.

The system is based upon the limitation principle and consists of eight classes. Criteria, assumptions, land capability grouping at detailed and reconnaissance level are discussed.

R e p o r t on the soil survey project of British Guiana.

FAO/UNDP, 1966. Vols.I-VII. FAO/SF:19/BRG.

Volumes III, IV-VI include land capability classification.

S A L G U E I R O , T. A. et al. / The land capability map of Portugal.
Trans.8th Int.Congr.Soil Sci., Bucharest, 1964, Vol.V: pp.837-845, 1 ref.
Syn.: E, F, G.

Sheets of the land capability map are at scale 1:50,000 on which classes are marked by colours and subclasses by symbols. The system follows the limitation principle (soil nature, soil water, erosion) and distinguishes five classes. Subdivision into subclasses is based on kind of dominant limitation from tables produced for each soil family and correction tables.

S H O M E , K. B. and S. P. R A Y C H A U D H U R I / Rating of soils of India.
Proc.Nat.Inst.Sci.India, 26 A (1961) : 260-289.

On the base of inherent soil factors, a modified Storie-Index method has been used to evaluate the agricultural value of the soils.

S o i l s and Land Use Series.
CSIRO. Div.Soils, Soils Land Use Ser. 1958 - .

The series comprises soil survey reports, which include a chapter dealing with aspects of soil survey interpretation, chiefly for agriculture.

S o i l and Land Use Surveys.
Imp.Coll.Trop.Agric.Regional Res.Centre.

These publications deal with soil surveys of various parts of countries in the Caribbean. They include a chapter on the practical application of the land capability classification as used in tropical areas.

S o i l Survey.
USDA Soil Conserv.Serv., in coop.with different agric.Exp.Sta., U.S.Govt.
Print.Off., Washington D.C. 1964 - .

A series of soil survey reports of the different counties in the USA. These reports contain a section on the use, suitability, and management of soils of the counties concerned for agricultural and non-agricultural purposes (crops, woodland, engineering, wildlife, recreation, range, etc.). For agriculture the land capability classification system of the Soil Conservation Service is used, for engineering the A.A.S.H.Q. as well as the Unified Soil Classification systems are followed.

S o i l Survey Bulletin.

Nat.Soil Surv.Ireland, An Foras Talúntais, Dublin 4, Ireland. 1964 - .

These serial publications on soils of the different counties of Ireland include a chapter on soil suitability. Soils are graded into six classes (A/F) according to the limitation principle.

(Detailed) S o i l survey and land classification in the Kui Buri River Valley.

Land Developm.Dep.Minist.Nat.Developm.Bangkok, 1969, pp.42, 81 report refs.
Soil Surv.Rep.No.82.

On pages 22-42 the USBR-land suitability classification for irrigated agriculture and the USDA-land capability classification (for rice and upland crops) as adapted to soil conditions in Thailand are described.

S o i l Survey Records.

Memoirs of the Soil Survey of Great Britain, England and Wales.

Soil Survey of Great Britain, Rothamsted Exp.Sta. 1971 - .

A series of publications on soils in selected areas (100 km^2) in each county of England and Wales (map scale 1:25,000). In the final chapter the land use capability (method of Bibby and Mackney) of the area is considered (in detail: see Soils in Derbyshire I, Soil Surv.Rec.No.4) or appendix (briefly: see Soils in Herefordshire I, Soil Surv.Rec.No.2). In addition to the soil maps, a land use capability map of Derbyshire accompanies the publication.

S o i l technical guide sheets.

Agric.Chem.Div.Minist.Agric.Lands Kingston (Jamaica), 1964, pp.144.

This practical handbook on the agricultural potential of Jamaican soils provides data on the physical and chemical conditions of the principal soil types and indicates their capability (land capability classification, six main classes), management, and fertilizing requirements.

S T O N E M A N , T. C. / The interpretation of Lands Department Soil Maps of the West Midlands area.

J.Dep.Agric.W.Aust. 9 (1968) 1 : 12-13.

An extension article on the use of soil maps in farming and land allocation. See also pp.22-23 entitled "Soil map used to group similar soils into land use classes".

T A H I R , A . A . R . and G . H . R O B I N S O N / Interpretations of soil survey in the Sudan for the use and management of soils.
Minist.Agric.Khartum (Sudan), 1969, pp.11, 7 refs. Techn.Bull.No.1.

Describes the system of land capability classification (USDA/SCS-method) to group soils according to their relative agricultural suitability. Also contains a brief discussion of other types of interpretations.

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- Robinson et al. 1972 (49)
- Tavenier & Marechal 1962 (50)
- Taychinov 1971 (27)
- Vincent & Thomas 1962 (50)

IRRIGATED AGRICULTURE

ANDRIESE, J. P. / The soils of Mazanderan in Northern Iran and their suitability for paddy-rice irrigation.
J. Soil Sci. 11 (1960) 2 : 226-245, ref.

On pp.236-243 criteria and the procedure of classifying soils according to their suitability for irrigable rice cultivation are discussed. Tables and maps are included.

BORNAND, M., G. CALLOT, J. C. FAVROT and E. SERVAT
Les sols du Val d'Allier. Notice explicative de la carte pédologique au 1:100,000.
Centr. Rech. Agric. Midi, Serv. Et. Sols. Montpellier, 1968, pp.199, refs. on pp.181-183. S.E.S.No.100.

Soils of the Val d'Allier. Explanatory note to the pedological map (scale 1:100,000). Section III: Mise en valeur (evaluation). Soils are classified into three broad categories according to their suitability for irrigated agriculture.

BOUZIQUES, R. and J. C. FAVROT / Etude pédologique de la moyenne vallée de l'Ardèche.
Inst. Nat. Rech. Agric. Serv. Et. Sols, Montpellier, 1968, pp.286, 27 refs.
S.E.S.No.83.

Pedological study of the central part of the valley of the Ardèche (Dept. Ardèche). Especially the third section (pp.209-268) "Mise en valeur" (evaluation) deals with the methodology of and problems in soil survey interpretation. Based on principal soil characteristics and properties (texture, porosity, structure, permeability, drainage conditions, lime content), soils are classified into units (irrigation-management map) having similar adaptations or management requirements for irrigated agriculture.

Bureau of Reclamation Manual.
Vol.V: Irrigated Land Use. Part 2: Land Classification.
U.S. Dep. of Interior/Bureau of Reclamation, Denver, Colorado, 1953.

D I D I C , V. / La classification des sols selon leur valeur pour l'irrigation.

Trans.8th Int.Congr.Soil Sci., Bucharest, 1964, Vol.V:891-896, 7 refs.

Syn.: E, F, G.

Classification of soils according to their irrigation value. The proposed method, based on measurable criteria, is a score-system with points ranging from 1-4 for each of the relevant soil features. The sum of points determines the soil value and consequently the category to which the soil belongs. Five categories have been distinguished. Factors considered are: effective depth, texture, porosity, moisture retention at field capacity and at wilting point, filtration and infiltration coefficient, and actual acidity.

G R I F F I T H S , E. / Soils of the Glenavy-Willowbridge District, South Canterbury, New Zealand, and their suitability for irrigation.

N.Z.J.Sci. 14 (1971) 3 : 524-553, 9 refs.

Soils have been graded into four classes using topography, available moisture, effective depth, and drainage/permeability as determinants. Soils concerned are: sand, stony snady loams, sandy loams, and silty loams.

H i g h Dam Soil Survey. United Arab Republic.

FAO/UNDP, Rome. Vols.I-IV. FAO/SF:16/UAR.

Vol.I: pp.24-29 and Vol.III: pp.3-6. Discusses the principles and assumptions applied in the land classification system and soil potentiality classification for irrigated agriculture and describes the five classes distinguished and their subdivisions.

K O V D A , V. A. / Soil surveys in land development.

ITC-UNESCO, Centr.Intergr.Surv., Delft/The Netherlands, 1966, pp.22. Publ.88.

A general consideration of the necessity for an interdisciplinary approach to land surveys, with special reference to irrigation/drainage practices and land classification in arid regions.

M A H L E R , P. J. (ed.) / Manual of land classification for irrigation.

Second approx.1970, subject to revision.

Soil Inst.Iran, Minist.Agric., 1970, pp.105. Publ.No.205.

The manual is made up of three parts: Part 1 (21 pp.) explains the approach to land classification, the principles, criteria considered, and the methodology. Part 2 (37 pp.) describes the Standard Land Classification. Part 3 (44 pp.) explains the Irrigability Land Classification which is a synthesis based on the soil survey and the Standard Land Classification.

M A L E T I C , J. T. and T. B. H U T C H I N G S / Selection and classification of irrigable land.

In: Hagan, R.M. et al. (Eds.): Irrigation of agricultural lands. Amer.Soc. Agric., Madison/Wisconsin, 1967, pp.1180, Monogr.No.11.

Discusses the basic functions of climate, soil, topography, and drainage as essential factors in selecting land for irrigation and their dependence on time, place, and a given social, economic, and technological situation.

M O R M A N N , F. R. and R. D U D A L / Characteristics of soils on which paddy is grown in relation to their capability classification.

Land Developm.Dep., Minist.Nat.Developm., Bangkok, 1965, pp.22, 35 refs. (31 rep.refs.). Soil Surv.Rep.No.32.

Includes the following subjects: amount, distribution, and quality of water; physical and chemical soil properties and characteristics; soil horizons and capability classification for rice lands (four classes).

N A N D A N , R. / Land capability classification in a canal irrigated area of the Patna District (Bihar).

J.Soil Wat.Conserv.India 14 (1966) 1/2 : 33-38, 1 ref.

Describes the characteristics of the eight classes of soils that have been distinguished and indicates their agricultural suitability.

R e p o r t on the survey of the Awash River Basin. Vol.I: General Report.

FAO/UNSF, Rome, 1965, pp.176, 35 refs. FAO/SF:10/ETH.

Chapter V. Soil survey and land classification (pp.40-49) describes the successive stages (general reconnaissance, semi-detailed) in a soil survey conducted to assess the development potentials for irrigated agriculture in a basin area in Ethiopia. Also explains the accompanying type of suitability classification for each stage.

R O B I N S O N , G. H. and F. S T E E L E / Classification and evaluation of soils for wetland rice.

Dep.Land Developm.Bangkok, 1972, pp.14, 28 refs. (91 rep.refs.)
Soil Surv.Rep.No.92.

Aspects considered are: soils used for rice cultivation; soil, water, and climatic features affecting rice production; soil survey intensity; existing soil/land evaluation systems, concept of soil and land, management types. A soil suitability classification system for paddy rice as developed for Thailand is described, in which soils are grouped into five main suitability classes according to the limitation concept.

S T O R I E , R. E. / Soil and Land classification for irrigation development.
Trans.8th Int.Congr.Soil Sci.Bucharest, 1964, Vol.V:873-882, 4 refs.
Syn.: E, F, G.

Problems of soil/land evaluation in relation to irrigation at different map scales (from reconnaissance to detailed), depending on the objectives. The system presented here is based on soil surveys or land type surveys (dependent on level of abstraction), on the Storie-Index (based on ten soil characteristics and properties and on studies of climate, water supply, crops, and economics. Land is graded into six irrigability classes; subclasses indicate deficiencies. Examples in the form of maps and tables illustrate this article.

Y A H I A , H. M. / Soil and soil conditions in sediments of the Ramadi Province (Iraq). Their genesis, salinity, improvement and use-potential.
Fysisch-Geogr.Bodemk.Lab./Univ.Amsterdam, Amsterdam, 1971, pp.227, refs.
on pp.221-227. Syn.: E, D.

Chapter 6: Land Classification (pp.160-183). Land classification maps were compiled on the basis of soil maps, soil quality maps (salinity and drainage), and topographical maps (detailed contour lines). Relevant aspects discussed in detail.

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Ahn 1970 (18)
Detailed soil survey 1969 (34)
Foth & Turk 1972 (21)
Leamy 1962 (31)
Luxton 1962 (48)
Tyurin et al. 1965 (16)

E N G I N E E R I N G

A L I M M I A N , M. , C H . J A L A L - U D - D I N and R. B R I N K M A N /
Soil surveys and their uses in planning, design, and construction of
highways.

Pakist.Engng. 10 (1970) : 913-917, 14 refs.

The possibilities of using soil surveys for purposes other than agriculture,
with particular emphasis on highway engineering, are indicated and illustrat-
ed with examples from practice.

B L U M E L , F. / Die Bodenkunde für das Bauwesen.

Bundesversuchsinst.Kulturtechn.Bodenk., Petzenkirchen, 1964, pp.17.

Soil Science for constructional engineering. Explains the role of pedology
as link between engineering geology and soil mechanics.

E n g i n e e r i n g soil classification for residential developments.

U.S.Govt.Print.Off./Federal Housing Administration, Washington D.C., 1959,
pp.107, FHA No.373.

Guide to the use of soil survey information, including specific engineering
data, for civil technical purposes (burrow materials, foundations for structur-
es, and residential sewage absorption systems). Section I deals with aspects
of the Unified Soil Classification System, characteristics and properties
significant to engineering, and identification procedures. In Section II
engineering soil test data are related to pedological classification to fa-
cilitate engineering interpretation.

E v a l u a t i o n of soils and use of soil surveys for engineering purposes
in urban development.

U.S.Govt.Print.Off./Federal Housing Administration, Washington D.C., 1963,
pp.71, 8 refs. FHA No.723.

A guide to the use of soil survey data for individual sewage disposal systems
and other engineering applications. The data presented refer to soil survey
studies in four selected counties in the eastern part of the USA.

G R A N T , K. / A terrain evaluation system for engineering.

CSIRO, 1968, pp.27, 13 refs. Div.Soil Mech.techn.Pap.No.2.

Guide for interpreting engineering uses of soils.

U.S.Dept.of Agric./USDA Soil Conserv.Serv., 1971, pp.87, 13 refs.

This guide has been prepared for the benefit of authors who prepare the soil-engineering interpretations to be included in published soil survey reports. It sets forth the information the engineering section should contain and suggests a format for presentation that helps to make the engineering interpretations consistent and more easily understandable to users of the surveys. It outlines the material to be included, shows methods for estimating and entering engineering data in the standard engineering tables, and sets forth instructions for writing the text of the engineering section. (From Introduction to Guide.)

HENRY, E. F. / Engineering uses of soil surveys in residential developments.

Ann.Meet.Amer.Soc.Agric.Engrs., Ithaca, New York, 1959, pp.9, 2 refs.

Pap.No.59-508.

With the Unified Classification System, it is possible to interpret soil survey data as provided by the National Soil Survey for engineering uses.

HUTCHINSON, F. E. and J. R. ARNO / Soil surveys for urban use in Maine.

J.Soil Wat.Conserv. 20 (1965) 3 : 85-88, 7 refs.

Significant soil properties determining the soil potential for building sites are: depth, internal drainage, bearing strength, and permeability. The suitability of soils to function as engineering construction material is discussed. An interpretative map and three tables reflecting the ideas of the system are included.

LUND, O. L. and GRIESS, O. B. / Use of agricultural soil maps for highway engineering in Nebraska.

Highway Res.Bd. Bull.299, pp.14-31.

MORE, H. / Engineering interpretation of soil data.

Proc.7th Ann.Engng.Geol.Soils Engng.Symp., Moscow, Idaho, 1969, pp.234-246.

PAWLUK, S. / Report of the subcommittee on soil survey interpretation for engineering purposes.

Proc.7th Meet.Nat.Soil Surv.Comm.Canada, Edmonton, 1968, pp.167-174, 3 refs.

Considers the soil properties and characteristics relevant to engineering and discusses approaches to soil survey interpretation.

S T O K S T A D , O. / Soil survey interpretation for engineering purposes.
Soil Sci.Soc.Amer.Proc. 22 (1958) 2 : 164-166, 2 refs.

General contemplation on problems concerning the application of soil survey data to engineering purposes, with suggestions and remarks on the required criteria and ways to tackle these problems.

T H O M P S O N , J. G. / Soils and some factors that govern their engineering properties.
Proc.Rhod.Inst.Engnrs. 4 (1966) 1 : 430-432.

Many characteristics that are important for agricultural purposes are also of interest to the engineer.

T H O R N B U R N , T. H. / The use of agricultural soil surveys in the planning and construction of highways.
In: Bartelli, L.J. et al. (Eds.): Soil surveys and land use planning.
Soil Sci.Soc.Amer.Proc., Madison, Wisconsin, 1966, pp.87-103.

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Bartelli 1966 (45)
FAO Techn.Rep.No.1, 1971 (49)
Gallup et al. 1967 (13)
Haans & Westerveld 1970 (14)
Hill & Shearin 1969 (14)
Klingebiel & Montgomery 1961 (23)
Olson 1964 (44)
Olson & Marchall 1968 (48)
Robinson et al. 1972 (49)
Soil Survey 1964- (33)
Steele 1967 (16)
Stewart 1968 (16)

SANITATION . HEALTH

C A D E L L , P. B. / Prevalence of dental caries in relation to New Zealand soils.

Joint Meet.Comms.IV and V. Int.Soc.Soil Sci.Trans.New Zealand, 1962, pp.884-888, 6 refs.

C A I N , J. M. and M. T. B E A T T Y / Disposal of septic tank effluents in soils.

J.Soil Wat.Conserv. 20 (1965) 3 : 101-105, 22 refs.

This report, based on a review of the literature of one-site sewage disposal, includes discussions of the use of soil survey information for identifying sites suitable for septic tank waste disposal system.(From authors' summary.)

D A V I E S , G. N. / Soil Science and epidemiology.

Joint Meet.Comms.IV and V.Int.Soc.Soil Sci.Trans.New Zealand,1962, pp.880-883, 9 refs.

A review paper also indicating how soil maps can be helpful in solving problems associated with human and animal health.

H E R R I M A N , R. C. / Soil and landscape factors in siting landfills.

J.Soil Wat.Conserv. 27 (1972) 2 : 78-80, 7 refs.

Discusses terrestrial criteria important to evaluation procedures and management problems.

H U D D L E S T O N , J. H. and G. W. O L S O N / Soil survey interpretation for subsurface sewage disposal.

Soil Sci. 104 (1967) 6 : 401-409, 17 refs.

The detailed soil survey, in combination with data on soil permeability and free water and experiences from homeowners have allowed quantitative interpretations to be made, resulting in the design of three general models of seepage fields.

L O S E E , F. L. / Soil and human health, with particular reference to dental health.

Joint Meet.Comms.IV and V, Int.Soc.Soil Sci.Trans.New Zealand, 1962, pp.889-893, 35 refs.

L O U G H R Y , F. G. / Soils and sanitation.

Soil conservation, 34 (1968) 2 : 31-34.

A general account on how soil survey maps (mostly detailed) can help in solving problems of on-lot sewage disposal and sanitary landfills.

L U D W I G , T. G., W. B. H E A L Y and R. S. M A L T H U S / Dental caries prevalence in specific soil areas at Napier and Hastings.

Joint Meet.Comms.IV and V, Int.Soc.Soil Sci.Trans.New Zealand, 1962, pp.895-903, 6 refs.

O L S O N , G. W. / Application of soil survey to problems of health, sanitation and engineering.

New York Agric.Exp.Sta/Cornell Agric.Exp.Sta., 1964, pp.77, 239 refs. Mem.387.

A review article with many examples, on the possibilities of applying soil survey information to urban and suburban soil-use questions. Contains a comprehensive bibliography that covers many aspects of the subject.

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- Robinson et al. 1972 (49)*
- Soil Survey 1964- (33)*
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- Stewart 1968 (16)*

P L A N N I N G . Z O N I N G . L A N D D E V E L O P M E N T

A L I M M I A N , M. and R. B R I N K M A N / Soil surveys and their uses
in town planning and siting and design of buildings.
Engng.News Lahore 15th Ann.J. 1970, pp.46-59, 5 refs.

Land use policy should be based on the principle that land well suited to crop production should be reserved for agriculture and less suited soils for industrial purposes, housing, etc. Soil factors and conditions of importance in site planning and structure design are considered and local examples (with capability map) given.

B A R T E L L I , L. J. / General soil maps. A study of landscapes.
J.Soil Wat.Conserv. 21 (1966) 1 : 3-6, 16 refs.

Explains the importance of small-scale soil maps in regional land use planning and describes procedures for converting soil survey data into terms easy usable by planners. Maps and photographs illustrate this article.

B A R T E L L I , L. J. / Use of soils information in urban-fringe areas.
J.soil Wat.Conserv. 17 (1962) 2 : 99-103, 17 refs.

This article illustrates how basic soil information can be helpful in developing a balanced and orderly pattern of land use in close harmony with the dominant nature of the area. (From authors' summary.) One multiple use interpretation map and five tables are included.

B A R T E L L I , L. J., A. A. K L I N G E B I E L , J. V. B A I R D and
M. R. H E D D L E S O N (Eds.) / Soil surveys and land use planning.
Soil Sci.Soc.Amer., Amer.Soc.Agric., Madison, 1966, pp.196, refs. with
the papers.

This book contains papers (presented at the Annual Meetings of the Soil Sci. Soc.of America and the American Soc.of Agronomy at Columbus, Ohio, November 1-5, 1965) on the application of soil survey information in mainly non-agricultural fields (planning, zoning, highway construction, tax assessment, etc.).

B E E K , K. J. and J. B E N N E M A / Land evaluation for agricultural land
use planning. An ecological methodology.
Landbouwhogeschool, Afd.Bodemk.Geol., Wageningen, 1972, pp.60, refs. as
footnotes.

(The) C a n a d a Land Inventory. Objectives, Scope and Organization.
Dep.reg.econ.expans., Ottawa, 1970 (second ed.), pp.61. Rep.No.1.

The CLI was planned primarily to provide a basis (reconnaissance scale) for resource and land-use planning. Contains a summary of the land capability classifications for various uses and of other relevant activities.

C A R D O S O , C. J. / Soil survey and land use planning in Portugal.
Trans.9th Int.Congr.Soil Sci., Adelaide. IV (1968) : 261-269. Syn.: E, F, G.

The USDA/SCS-land capability classification system has been employed in modified form,using the land capability-index as differentiating principle on class level.The land capability index is computed with a formula in which soil factors are incorporated. Various roles that the soil map has played in the development of the country are summarized.

C R E S S M A N , D. R. / The productive capacity of the natural resources of Manitoulin. A working document for the Canada Land Inventory.
Dep.For.Rur.Developm., Ottawa/Univ.Guelph, Ontario, 1968, pp.195, 66 refs.
ARDA-Rep.

An example of how to use soil capability classifications (agriculture) and land capability classifications (recreation, forestry, wildlife, and present land use) as a working basis for land resource planning and rural development.

C R E S S M A N , D. R. and D. W. H O F F M A N / Classifying land for recreation.
J.Soil Wat.Conserv. 23 (1968) 3 : 91-93, 3 refs.

Among other things, this paper discusses the integral function of soil maps and reports in rating the recreational capability of land areas.

E D E L M A N , C. H. / Applications of soil survey in land development in Europe. With special reference to experiences in The Netherlands.
Int.Inst.Land Recl.Impr., Wageningen/The Netherlands, 1963, 43 pp., 16 refs.
Publ.No.12.

The author reviews the progress of interpretative classification in Europe. Chapters include (1) Soil survey in relation to crop production, (2) Soil survey in relation to land reclamation and improvement and (3) Soil survey in relation to town and country planning.

G I L , N. and Z. R O S E N S A F T / Soils of Israel and their land use capabilities. Summary of soil survey.
Minist.Agric.Soil Conserv.Serv.Hakiryia/Israel, 1955, pp.52.

G R E E N E , H. / Soil survey and land-use planning.
SPAN 4 (1961) 4 : 151-153.

A general account of the use of soil survey information and additional data (depending on the purpose) in land use planning.

H E L S E T H , T. P. / Facts for urban growth.
Soil Conserv. 36 (1971) 6 : 130-131.

The importance of soil survey information as basic material in planning and zoning is broadly discussed.

H I L L , D. E. and H. F. T H O M A S / Use of natural resource data in land and water planning. Report of the Connecticut Geology-Soil Task Force.
Conn.Agric.Exp.Sta., 1972, pp.47, 8 refs. Bull.No.733.

This report describes how geologic, hydrologic, and soil data can be interpreted to provide a base for land and water use planning. The interpretation system developed is in a simple form and flexible enough to provide both general and detailed information. The data are intended for preliminary planning and cannot replace the need for on-site investigations. (From author's summary.)

K L I N G E L H O E T S , A. J. / Zoning with soil surveys.
Soil Conserv. 34 (1968) 2 : 33-34.

The significance of soil survey maps in land use planning is outlined.

K U N T Z E , H. / Bodenkriterien zur Beurteilung der zweckmässigen Bodennutzung.

Z.Kulturtechnik & Flurbereinigung, 12 (1971) 4 : 221-233, 5 refs. Syn.: G,E.

Soil criteria for the judgement of proper land use. The author discusses soil factors (parent material, effective soil depth, soil type, drainage and ground water, relief, exposure and erosion) which are easily determinable in the field and are of significance for the competing kinds of land utilization.

L E A M Y , M. L. / Significance to land use planning of soils of high value.
for food production.
N.Z.J.Agric.Res. 13 (1970) 4 : 966-976, 14 refs.

The fundamental significance of the application of soil survey information
in land use planning is indicated by a practical example (highly productive
Wingatui silt loam).

L U X T O N , R. F. / Report on methods, criteria, terminology and scales
used for land-use planning and mapping in the Republic of South Africa.
Afr.Soils 7 (1962) 1/2 : 81-120.

Basic information for land-use planning purposes is provided by: systematic
soil classification and mapping, detailed irrigation soil surveys and farm
planning surveys. Two appendices outline main profile characteristics, ter-
minology, profile criteria, and the assessment of irrigable values.

M c C O R M A C K , R. J. / The Canada Land Use Inventory. A basis for land
use planning.
J.Soil Wat.Conserv. 26 (1971) 4 : 141-146.

National classification systems for different purposes are reviewed as
instruments in decision-making. Examples of land capability maps and tables
are included.

O L S O N , G. W. and E. E. H A R D Y / Using existing information to
evaluate and predict agriculture in a region.
J.Soil Wat.Conserv. 22 (1967) 2 : 62-66, 11 refs.

The authors expound how (large and small scale) soil surveys can be inte-
grated into regional evaluation and development. Examples refer to New
York's Oswego River watershed.

O L S O N , G. W. and R. L. M A R C H A L L / Using high-intensity soil
surveys for big development projects: a Cornell experience.
Soil Sci. 105 (1968) 4:223-231, 15 refs.

This article shows that detailed soil surveys by means of large-scale aerial
photographs could form the basis for planning and implementing expensive
development projects.

R A E S I D E , J. D. / Society, town planning, and the soil map.
Joint Meet.Comms.IV and V. Int.Soc.Soil Sci.Trans.New Zealand, 1962,
pp.854-868.

Practical examples are used to illustrate the importance of soil maps in the planning of urban areas and in preventing the irrecoverable loss of good agricultural land.

R O B I N S O N , G. H., F. S T E E L E and T. C H A R A S A I Y A /
Soil surveys in agricultural development.
FAO Land Developm.Dept./Soil Surv.Div., Rome, 1972, pp.13, 8 refs. Techn.
Bull.No.14 (text also in Arabic).

Discusses the kinds and intensity of soil surveys and their uses for various agricultural purposes (land capability classification), with notes on the engineering use of soil surveys. The relation between soil survey scale and its main purpose is presented in a table.

S o i l survey project Pakistan. Soil resources in West Pakistan and their development possibilities.
FAO/UNDP, Rome, 1971, pp.167, 50 refs. AGL:SF/PAK 6. Techn.Rep.No.1.

On the basis of climatic variations and different soil characteristics in Pakistan, eleven crop ecological zones have been recognized and delineated. The soils have been grouped into eight land capability classes and seven subclasses (indicating their suitability for sustained production of agricultural crops, grazing, or forestry). Also treated is the appraisal of soils for non-agricultural purposes (planning and design of highways, urban and industrial areas, etc.).

S o i l survey project Pakistan. Agricultural development possibilities in East Pakistan.
FAO/UNDP, Rome, 1971, pp.153. AGL:SF/PAK 6. Techn.Rep.No.2.

Evaluation of development possibilities is principally based on data collected during the reconnaissance soil survey. Particular emphasis has been put on the cultivation possibilities of IRRI-rice, MexiPak wheat, sugar cane, and oilseeds by means of irrigation and drainage.

S T E P H E N S , C. G. (Ed.) / Soil surveys for land development.
FAO, Rome, 1953, pp.110, 28 refs. FAO agric.Stud.No.20.

This handbook on pedology deals with many aspects of soil survey, soil classification, and mapping, and their significance when applied in practice.

T A V E N I E R , R. J. F. and R. M A R E C H A L / The use of soil maps in Belgium.

Joint Meet.Comms.IV and V, Int.Soc.Soil Sci.Trans.New Zeland, 1962, pp. 308-313, 10 refs.

Defines the land suitability classes (5) and land capability classes (5), and explains the application of soil maps to agricultural and town and country planning. Also gives a brief outline of the use of the soil coefficient and the agricultural coefficient in evaluating the agro-economic potential of an area.

V I N C E N T , V. and R. C. T H O M A S / Report of the Federation of Rhodesia and Nyassaland on the methods of classification, the criteria, the terminology, and the scales employed in land-use planning and mapping. Afr.Soils 7 (1962) 1/2 : 1-68.

Papers included are: (1) The planning procedures of the Federal Dept. of Conservation and Extension, (2) Provisional criteria for the eastern districts, (3) A glossary of terminology used in land classification in the Federation, and (4) Classification of soils for land-use purposes in the Rhodesias. The USDA-system of land classification has been adapted to local conditions. Levels distinguished are: land-capability divisions, classes, subclasses, and units.

V I N K , A. P. A. / Planning of soil surveys in land development.

Int.Inst.Land Reclam.Improv., 1963, pp.55, 32 refs. Publ.No.10.

Relevant sections are found in the introductory chapter and under heading 4 (pp.46-49) entitled "The interpretation of soil surveys for practical purposes". Seven types of soil survey interpretation systems are defined and discussed.

W O H L E T Z , L. R. / Interpretative soil maps for land-use planning.

Trans.9th Int.Congr.Soil Sci., Adelaide, IV (1968), pp.225-233, 7 refs.

Syn.: E, F, and G.

In metropolitan areas (in this case California) there are opposing interests in the use of good land. Steps in developing long-range framework plans (analysis, interpretation, presentation of soil data in the form of alternative interpretative maps, and the synthesis via single-purpose interpretations) are discussed. Consideration is given to a properly balanced land-use model.

W O H L E T Z , R. L. and W. E. W I L D M A N / Land use planning by fore-
sight or hindsight.

J. Soil Wat. Conserv. 26 (1971) 4 : 135-137, 5 refs.

The significance of soil survey (interpretation) as an integral part of
land use planning is sketched. A figure is included showing schematically
the interrelation between soil properties and qualities, assumptions and
criteria, and the nature of soil survey interpretations.

Y A N G G A N , D. A., M. T. B E A T T Y and A. J. B R O V O L D / Use of
detailed soil surveys for zoning.

J. Soil Wat. Conserv. 21 (1966) 4 : 123-126, 1 ref.

A new concept in zoning has been developed in Buffalo County, Wisconsin,
where the detailed soil survey has been made an integral part of a zoning
ordinance. (From author's summary.)

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- Frei et al. 1969 (21)*
- Haans & Westerveld 1970 (14)*
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- Russell 1962 (26)*
- Steele 1967 (16)*
- Stewart 1968 (16)*
- Stobbs 1970 (16)*
- Tyurin et al. 1965 (16)*

D U T C H L I T E R A T U R E

- A K K E R , A. M. van den, and H. J. M. Z E E G E R S / Draagkracht van de bovenlaag in het ruilverkavelingsgebied Oldelamer.
Boor en Spade 16 (1968) : 189-201, 5 refs. Syn.: D, E .

Bearing capacity of the top soil in the Oldelamer land consolidation area. Simultaneously with a soil survey, a penetrometer investigation into the bearing capacity of the grassland was conducted. Results are reported and discussed in relation to interpretation of soil (peat, peaty soils, sandy and clayey soils) for use as pasture.

- B A E Y E N S , L. / Een inductive methode voor de bepaling van de cultuurwaarde van gronden op eolische sedimenten. Eerste approximatie.
Pedologie 14 (1964) 2 : 115-139. Syn.: F, E, G.

An inductive method to determine the suitability of soils on aeolian sediments. First approximation. In the proposed mathematical procedure, diagnostic soil factors are expressed by coefficients and integrated in an end-formula that determines the soil suitability.

- B o d e m en bemesting. Cursus Bodemkunde. Theoretische Bodemkunde. Deel III: Beoordeling en verbetering van de grond voor land- en tuinbouw.
Rijkslandbouwconsulentschap Bodem Bemesting. Wageningen, 1970, pp.519-882.

Soil and fertilizing. Soil science course. Theoretical soil science. Part III: Soil evaluation and amelioration for agriculture and horticulture.

- B o d e m en planologie. Een studie over de betekenis van de bodemkartering voor niet-agrarisch bodemgebruik.
Stichting Bodemkart. Wageningen, 1970, pp.60. Overdruk No.68. Reprint from: Stedebouw en Volkshuisvesting, extra nr., Augustus 1970.

The soil and town and country planning. A study on the significance of soil survey for non-agricultural land use. This reprint contains a collection of articles by different authors, the result of combined efforts by researchers from diverse professional fields.

- B I J H O U W E R , J. T. P. / Mogelijkheden voor de toepassing van de bodemkaart, schaal 1:50.000.
Boor en Spade 15 (1966) : 81-85. Syn.: E.

Possible uses of the soil map at a scale of 1:50,000. An assume of the function of the soil map in plant sociology studies, grassland investigations, landscape architecture and planning, silviculture, and town and country planning.

D A M , J. G. C. van / Aspecten van het bodemgeschiktheidsonderzoek in de
tuinbouw.

Stichting Bodemkart., Wageningen, 1963, pp.6, 13 refs. Overdruk nr.2.Reprint
from: Meded.Dir.Tuinb. 26 (1963) 4 : 197-200. Syn.: E.

Aspects of research into the suitability of soils in horticulture.

D A M , J. G. C. van / Geschiktheid van de grond voor tuinbouw.

Landbouwk.Tijdschr. 79 (1967) 9 : 299-305.

Soil suitability for horticulture.

D A M , J. G. C. van and J. A. H U L S H O F / De penetrometer als instru-
ment voor het onderzoek naar de geschiktheid van de grond voor de asperge-
teelt.

Stichting Bodemkart., Wageningen, 1967, pp.6, Dir.Tuinb. 30 (1967) 5 :
186-190. Syn.: E.

The penetrometer as instrument to test soil suitability for asparagus culti-
vation.

D E K K E R S , J. M. J., B. H. S T E E G H S , and G. J. W. W E S T E R V E L D

De bodemgesteldheid en de bodemgeschiktheid voor akker- en weidebouw, voor
bebossing en voor de aanleg van sportvelden en speel- en ligweiden van
Zwolle-Oost.

Stichting Bodemkart., Wageningen, 1971, pp.43, 3 refs.

The condition and suitability of the soils of East Zwolle for arable and
grassland, farming, for afforestation, and for sports fields and play-
grounds.

D R I J F H O U T , H. E. and J. R. W I L L E T / Aardgas III.

Tijdschr.Kon.Ned.HeideMij. 76 (1965) 11 : 352-357.

Natural gas III. Describes the preparation and execution of a soil survey
for the construction of pipe lines to distribute natural gas.

F E R R A R I , Th. J. et al. / Agrarisch gebruik van de grond in verband met bodemgesteldheid en landinrichting.

Stichting Bodemkart., Wageningen, 1967, pp.24. Overdruk nr.52.

Agricultural land use and its relation to soil conditions and land use planning. A collection of four reprinted (Landbouwkundig Tijdschrift 79 (1967) 9 and 10) articles with special reference to horticulture in The Netherlands.

G O O R , C. P. van / Mogelijkheden voor de bosbouw op grond van de bodemgeschiktheid.

Ned.Bosbk.Tijdschr. 43 (1971) 6 : 39-44, 8 refs.

Possibilities for forestry on the basis of soil suitability. Essentials of the text also in English. A general forest suitability map of The Netherlands at scale 1:600,000 is included.

H E U V E L N , B. van / Het gebruik van bodemkaarten voor de Nederlandse landbouw.

Landbouwk.Tijdschr. 76 (1964) 22 : 1047-1058, 23 refs.

The use of soil maps for agriculture in The Netherlands.

K I E V I T , J. L. de / Een classificatiesysteem voor een bodemgeschiktheidsbeoordeling van gronden voor een bepaalde vorm van bodemgebruik.

De Ingenieur 82 (1970) 45 : B 159-B 168, 3 refs. Syn.: E.

A classification system for the appraisal of the suitability of soils for a specific use. A soil classification of an area can be given for different types of land use, after the degrees of each limitation and the extent or importance of the various limitations are determined. This can be based on the site preparation costs depending on the type of measures to be taken. In the present study the appraisal of the suitability refers only to urban development plans. (From author's summary.)

L I N D E , J. van der et al. / Bodem en Landbouw. De betekenis van bodemkartering en veldbodemkundig onderzoek voor landbouw, tuinbouw en cultuurtechniek.

Stichting Bodemkart., Wageningen, 1970, pp.47. Overdruk nr.78.

Soil and agriculture. The significance of soil survey and field pedological research for agriculture, horticulture, and land development. A collection of papers presented at a discussion meeting to mark the 25th anniversary of the foundation of the Soil Survey Institute, Wageningen.

L Y N D E N , K. R. van / Indeling van gronden naar hun geschiktheid voor de bosbouw.

Stichting Bodemkart., Wageningen, 1966, pp.13. Syn.: E.

Classifying soils according to their suitability for forestry. Soil maps, especially at scale 1:25,000, form starting points for the choice of trees and serve as a basis for the working plan. Ten classes have been distinguished and grouped into four main classes, mostly on the basis of observations of tree-growth on different kinds of soil. Suitability and soil maps are included.

L Y N D E N , K. R. van / De houtsoortenkeuze in verband met de bodem.

Stichting Bodemkart., Wageningen, 1967, pp.12. Overdruk nr.43. Reprint from: Bosbouw 39 (1967) 1 : 3-14.

Choice of trees in relation to the soil. The relation between tree growth and field pedological data (soil profile, groundwater table) is illustrated by schematic transverse sections of soil landscapes.

N A A R D I N G , W. H. et al. / Samenstelling en gebruik van bodemkaarten ten behoeve van cultuurtechnische werken.

Stichting Bodemkart., Wageningen, 1970, pp.27, 3 refs. Overdruk nr.77. Reprint from: Cultuurtechn.Tijdschr. 10 (1970) 2 : 54-92.

Compilation and use of soil maps for land-development. Mainly intended for use in land consolidation programmes, which cover many aspects of agricultural engineering. This article includes a scheme of possible uses for soil maps and gives examples of maps derived from soil maps.

N E R U M , K. van and A. P A L A S T H Y / Moderne methodologische aspecten van het bodemgeschiktheidsonderzoek van tuinbouwteelten.

Agricultura 19 (1971) 3/4 : 1-32, 27 refs. Syn.: E.

Modern methodological aspects of soil suitability investigations in horticulture. This article gives a general idea about the new possibilities of numerical analysis (factor analysis or aspect analysis). (From author's summary.)

P I J L S , F. G. W. / Veranderend bodemgebruik en bodemgeschiktheidsonderzoek. Landbk.Tijdschr. 83 (1971) 10 : 407-412, 4 refs.

Changing land use and research on soil suitability. A description is given of how the Soil Survey Institute, by its research on soil suitability, can contribute to the solution of problems associated with the planned decrease of farming areas and the increasing demand for land for urban and recreative purposes. (From author's summary.)

R a p p o r t e n S T I B O K A .

Stichting Bodemkart., Wageningen/The Netherlands.

Most of these mimeographed reports, published in Dutch, include detailed information on soil conditions and soil suitability of various parts of The Netherlands for agricultural and non-agricultural purposes.

S M E T , L. A. H. de / Bodemgeschiktheidsonderzoek en bodemgeschiktheidsclassificatie in het kader van de bodemkartering.
Landbouwk.Tijdschr. 79 (1967) 9 : 293-298, 7 refs.

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S M E T , L. A. H. de / Grondverbeteringsmogelijkheden en hun betekenis in de Groninger Veenkoloniën.
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Possibilities for soil improvements and their significance in the peat area of Groningen. The author describes soil conditions, actual soil suitability, rural engineering suitability classification, possibilities for soil improvement and expected results.

S M E T , L. A. H. de / Voorlichting op basis van bodemkaarten.
Stichting Bodemkart., Wageningen, 1964, pp.10, 6 refs. Overdruk nr.21.
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Extension based on soil maps. Especially in relation to manuring, tillage, and crop-rotation in the clayey region of Groningen.

S M I T , J. F. and L. T O U W E N / Aanleg van een militair oefenterrein voor rupsvoertuigen (Havelte-West).
Tijdschr.Kon.Ned.HeideMij. 81 (1970) 5 : 152-163, 3 refs.

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V I N K , A. P. A. and E. J. van Z U I L E N (Eds.) / De geschiktheid van de bodem van Nederland voor akker- en weidebouw.Toelichting bij de zeer globale bodemgeschiktheidskaart voor akker- en weidebouw van Nederland.

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Suitability of soils of The Netherlands for arable land and grassland. Explanation to the highly general soil suitability map for arable land and grassland of The Netherlands. Scale 1:200,000. A descriptive system mainly based on practical experience. Five main classes are distinguished.

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