REFERENCES

- ABRAHAMS, A.D., PARSONS, A.J. and LUK, S.H., 1991. The effect of spatial variability in overland flow on the downslope pattern of soil loss on a semiarid hillslope, Southern Arizona. Catena (18): 255 70.
- ACOCKS, J.P.H., 1953. Veld types of South Africa. Botanical Research Institute, Pretoria. Botanical survey of South Africa, Memoir 57, pp. 146.
- AGRICULTURAL RESEARCH COUNCIL, 2000. Winterton rainfall station (19737).

 Institute for Soil, Climate and Water, Agrometeorology Division, Pretoria.
- ASCE, 1975. Sedimentation engineering. Vito A. Vanoni, ED. ASCE MR No.54. 745p.
- BARNARD, R.O., VAN DER MERWE, A.J., DE VILLIERS, M.C., VAN DER MERWE, G.M.E. and MULIBANA, N.E., 2000. Problem soils including degraded soils: Extent, present use, management and rehabilitation in South Africa. Proceedings of FAO/ISCW expert consultation on management of degraded soils in Southern and East Africa (MADS-SEA). 18 22 September 2000. Pretoria, South Africa.
- BEASLY, D.B., HUGGINS, L.F. and MONKE, E.J., 1980. ANSWERS: A model for watershed planning. *Transaction of the American Society of Agricultural Engineers*, 23: 938 44.
- BERGSMA, E., 1986. In: W. Siderius (ed). Land evaluation for land use planning in sloping areas. International workshop, Enshede, The Netherlands, 17 21 December, 1984.
- BOUBAKARI, M., 1992. Grass strip performance on steep lands. MSc Thesis, Silsoe College, Cranfield Institute of Technology.
- DATS, 1976. Soil Loss Estimator of Southern Africa. Development and proposed application of a model- proceedings of a Cedara workshop. *Natal Agricultural Research Bulletin* (7): pp. 06 08.
- DEWIS, J. and FREITAS, F.C.R., 1970. Physical and chemical methods of soil and water analysis. *Soils Bull. No. 10*. FAO, ROME.
- EL-SWAIFY, S.A., DANGLER, E.W., and ARMSTRONG, C.L., 1982. Soil erosion by water in the tropics. College of Tropical Agriculture and Human Resources, Univ. Hawaii.

- ELLIOT, W.J., LEIBENOW, A.M., LAFLEN, J.M. and KOHL, K.D., 1989. A compendium of soil erodibility data from WEPP cropland soil field erodibility experiments 1987 and 1988. National Soil Erosion Research Laboratory Report No.3. (USDA-ARS: W. Lafayette, IN.).
- ELWELL, H.A., 1978. Modelling soil losses in southern Africa. *Journal of Agric. Eng. Research*, 23: 117 27.
- ELWELL, H.A., 1996. Environmental monitoring of land degradation and soil erosion methods and techniques. Guidelines for the SADC region. Compiled for SADC-ELMS, Maseru, third draft.
- ELWELL, H.A. and STOCKING, M.A., 1973. Rainfall parameters for soil loss estimation in subtropical climates. *J. Agric. Eng. Res.*, 18: 169 177.
- ELWELL, H.A. and STOCKING, M.A., 1982. Developing a simple yet practical method of soil loss estimation. *Trop. Agric.*, 59: 43 48.
- FAO, 1992. Protect and produce Putting the pieces together. Rome: Food and Agriculture Organisation.
- FLOYD, E.J., 1974. Tunnel erosion: a field in the Riverina. *Journal of Soil Conservation*Service NSW (30): 145 56.
- FOSTER, G.R. and MEYER, L.D., 1977. Soil erosion and sedimentation by water- An overview. Proceedings of National Symposium of soil erosion and sedimentation by water. *Am. Soc. Agr. Eng. St Joseph, Michigan*. p. 1 13.
- FOSTER, G.R., LANE, L.J., NOWLIN, J.D., LAFLEN J.M. and YOUNG, R.A., 1981. Estimating erosion and sediment yield on field-sized areas. *Transaction of the American Society of Agricultural Engineers*, 24: 1253 63.
- GILLEY, J.E., WOOLHISER, D.A. and McWHORTER, D.B., 1985. Interrill soil erosion (Part II): Testing and use of model equations. Trans. Amer. Soc. Agric. Eng. (28):

 154 9.
- GOVERS, G and POESEN, J., 1988. Assessment of the interrill and rill contributions to total soil loss from an upland field plot. Geomorphology (1): 343 54.
- GREGORY, K.J. and WALLING, D.E., 1973. Drainage basin form and process. London, Edward Arnold.
- HAARHOFF, D., SMITH, H.J., BEYTELL, J.F. and SCHOEMAN, J.L., 1994. The testing of techniques for the determination of the erosion potential of areas in South Africa. ISCW report no. GW/A/94/7.

- HERB, W.J. and YORKE, T.H., 1976. Storm-period variables affecting sediment transport from urban construction areas. Proc. 3rd Federal Inter-Agency Sedimentation Conf., PB-245-100, Water Resources Council, Washington D.C., pp.1.181 1.192.
- HERWEG, K., 1996. Field manual for Assessment of Current Erosion Damage. Soil Conservation Research Programme and Centre for Development and Environment, Geographica Bernensia. ISBN 3 906151-07-7.
- HESSE, P.R., 1971. A textbook of soil chemical analysis. John Murray, London
- HIGHFILL, R.E. and KIMBERLIN, L.W., 1977. Current erosion and sediment control technology for rural and urban lands. Proceedings of National Symposium of soil erosion and sedimentation by water. Am. Soc. Agr. Eng. St Joseph, Michigan. 14p.
- HUDSON, N., 1971. Soil conservation. Ithaca: Cornell University press.
- HUDSON, C.A., 1987. A regional application of SLEMSA in the Cathedral Peak Area of the Drakensburg: An analysis of the applicability of the Soil Loss Estimation Model for southern Africa in small mountain catchments.
- HURNI, H., 1984. Soil conservation research project Ethiopia. Volume 4. Third progress report (1983). University of Bern and United Nation University.
- ICRISAT, 1986. Farming systems principles for improved production and the control of soil degradation in the semi-arid, and humid tropics. Hyderabad: United Nation Environment Program and International Crops Research Centre for the semi-arid tropics.
- KINNELL, P.I.A., 1988. The influence of flow discharge on sediment concentrations in raindrop induced flow transport. Australian Journal Of Soil Research (26): 575 582.
- KIRKBY, M.J., 1969. Erosion by water on the hillslopes. In *Water, Earth and Man* (CHORLEY, R.J. ed.), Methuen, pp. 229 38.
- KIRKBY, M.J., 1971. Hillslope process-response models based on continuity equation. In Slopes: Forms and process (Brunden, D. ed.), Inst. Br. Geogr. Spec. Pub. 3, pp. 15 – 30.
- KIRKBY, M.J., 1980. Modeling water erosion processes. In M.J. KIRKBY and R.P.C. MORGAN (eds.), Soil erosion. Chichester, Wiley: 183 216.
- KIRKBY, M.J. and MORGAN, R.P.C., 1980. Soil erosion. Chichester, John Wiley and Sons, New York, N.Y.

- KNISEL, W.G., 1980. CREAMS: a field scale model for chemicals, runoff and erosion from agricultural management systems. USDA Conservation Research Report (26).
- KOWAL, J.M. and KASSAM, A.H., 1976. Energy load and instantaneous intensity of rainstorms at Samaru, northern Nigeria. Tropical Agriculture (53): 185 97.
- LAKER, M.C., 1990. Conservation status of agricultural resources in the developing areas of South Africa. Proc. 1990 National Veld Trust Conference, Pretoria. National Veld Trust, Pretoria
- LAKER, M.C., 1993. Human-induced soil degradation in Africa. Proc. Jubilee Congress Nat. Veld Trust, 11. Pretoria, South Africa.
- LAKER, M.C., 1994. Degradation of arable and cultivated land in South Africa present situation, causes, consequences and possible policies to combat it in future. LAPC report on soil degradation in South Africa.
- LAKER, M.C., 2000. Soil resources: Distribution, Utilisation and degradation. Chapter 14, In: Geography of South Africa in a changing world (Fox, R. and Rowntree, K. eds.). Cape Town, Oxford University press.
- LANDCARE AND DESERTIFICATION, 1998. LandCare supplement. Depts. of Agric. and Land Affairs, 20 pp.
- LANE, L.J. and NICHOLS, M.H., 1996. A hydrologic method for sediment transport and yield. USDA-ARS, Tektran.
- LANE, L.J., RENARD, K.G., FOSTER, G.R. and LAFLEN, J.M., 1992. Development and application of modern soil erosion prediction technology The USDA experience. Aust. J. of Soil Res., 30: 893 912.
- LANE, L.J., SHIRLEY, E.D. and SINGH, V.P., 1988. Modeling erosion on hillslopes. In: M.G. Anderson (ed.), Modeling geomorphological systems. John Wiley Publ., New York. pp. 287 – 308.
- LAWS, J.O. and PARSONS, D.A., 1943. The relationship of raindrop size to intensity. Transaction of the American Geophysical Union (24): 452 – 60.
- LUNDGREN, B. and NAIR, P.K.R., 1985. Agroforestry for soil conservation. In S.A. EL-SWAIFY, W.C. MOLDENHAUER and A. LO (eds), Soil erosion and conservation. Ankeny IA, Soil Conservation Society of America: 703 11.
- MASHALI. A.M., 2000. FAO networks on soil management of problem and degraded soils: Focus on MADS-SEA network. Proceedings of FAO/ISCW expert consultation on management of degraded soils in Southern and East Africa (MADS-SEA).

 18 22 September 2000. Pretoria, South Africa.

- MASWANA, N.N., 2001. Community-based soil conservation as a basis for land reclamation in the Eastern Cape. M.Inst.Agrar (thesis): Land use planning. Department of plant and soil science, University of Pretoria.
- MATTHEE, J.F.La G. and VAN SCHALKWYK, C.J., 2001. A primer on soil conservation.

 National Department of Agriculture, Pretoria. p. 17 21.
- MELVILLE, N., 1992. The influence of grass density on the effectiveness of grass strips.

 MSc Thesis, Silsoe College, Cranfield Institute of Technology.
- MEYER, L.D., 1965. Simulation of rainfall for soil erosion research. *Transactions, American Society of Agricultural Engineers* (8): 63 65.
- MIHARA, Y., 1951. Raindrops and soil erosion. Bulletin of the National Institute of Agricultural Science Series A, No.1 (in Japanese).
- MILLIMAN, J.D. and MEADE, R.H., 1983. Worldwide delivery of river sediment to the oceans. *J. Geol.*, *Vol.* (19): pp. 1 21.
- MITCHELL, J.K. and BUBNZER, G.D., 1980. Soil loss estimation. In M.J. KIRKBY and R.P.C. MORGAN (eds.), Soil erosion. Chichester, Wiley: 17 61.
- MORGAN, R.P.C., 1995. Modeling soil erosion. In R.P.C. Morgan (ed.). Soil erosion and conservation. 2nd ed. Longman Group Ltd, London.
- MORGAN, R.P.C., MARTIN, L. and NOBLE, C.A., 1986. Soil erosion in the United Kingdom: a study case from mid-Bedfordshire. Silsoe College Occasional Paper No.14.
- MORIN, J., RAWITZ, E., BENYAMINI, Y., HOEGMOOD, W.B. and ETKIN H., 1984.

 Tillage practices for soil and water conservation in the semi-arid zone. II.

 Development of the basin tillage system in wheat fields. Soil and Tillage Research (4):

 155 64.
- MOSS, A.J., GREEN, P. and HUTKA, J., 1982. Small channels: their formation, nature and significance. Earth Processes and Landforms (7): 401 15.
- NAPIER, T.L., 1987. "Farmers and soil erosion: A question of motivation." Forum, 2(2): 85 94.
- NATIONAL ACADEMY OF SCIENCE, 1974. Productive agriculture and a quality environment. Washington, D.C. 189 pp.
- NDULI, N., 2000. Planning a national LandCare strategy for 2001. LandCare South Africa,
 October 2000 workshop. National Department of Agriculture, Pretoria. p. 4.

- NEARING, M.A., LANE, L.J. and LOPES, V.L., 1994. Modeling soil erosion. In: R. LAL (editor), Soil Erosion Research Methods 2nd ed., *Soil and Water Conservation Society and St Lucie Press*, Ankeny. p.127.
- NEARING, M.A., FOSTER, G.R., LANE, L.J. and FINKNER, S.C., 1989. A process-based erosion model for USDA- Water Erosion Prediction Project Technology. *Transactions, American Society of Agricultural Engineers* (In-press).
- NEIBLING, W.H. and FOSTER, G.R., 1977. Estimating deposition and sediment yield from overland flow processes. In Proc. Of Int'l. Sympos. on Urban Hydrology, Hydraulics and Sediment Control. Univ. of Kentucky, Lexington, KY. (In press).
- NORMAN, D and DOUGLAS, M., 1994. Farming systems development and soil conservation. FAO farm systems management series. Rome, 1994.
- ONSTAD, C.A., MUTCHLER. C.K., BOWIE, A.J., 1977. Predicting sediment yields. Proceedings of National Symposium of soil erosion and sedimentation by water. Am. Soc. Agr. Eng. St Joseph, Michigan. p. 43 58.
- PIMENTEL, D. and OTHERS., 1976. Land degradation: effects on food and energy resources. Science (194): 149 155.
- POESEN, J., 1984. The influence of slope angle on infiltration rate and Hortonian overland flow volume. Zeitschrift fδr Geomorphologie Supplementband (49): 117 31.
- RAMPHELE, M. and MC DOWEL, C. (ed.), 1991. Restoring the land. Environment and change in the post-apartheid South Africa. Panos publications, London.
- RENARD, K.G., FOSTER, G.R., WEESIES, G.A. and PORTER, J.P., 1991. RUSLE: Revised Universal Soil Loss Equation. Journal of Soil And Water Conservation (46): 30 3.
- RENARD, K.G., LAFLEN, J.M., FOSTER, G.R. and McCOOL, D.K., 1994. The Revised Universal Soil Loss Equation. In: R. LAL (editor), Soil Erosion Research Methods 2nd ed., Soil and Water Conservation Society and St Lucie Press, Ankeny. p.105.
- ROSE, C.W., 1960. Soil detachment caused by rainfall. Soil Sci. (98): 28 35.
- SARCCUS, 1981. System for the classification of soil erosion. Department of Agriculture and Fisheries, RSA. ISBN 0-949986-11-9.
- SCHULZE, R.E., 1979. Soil loss in the key area of Drakensburg: a regional application of the Soil Loss Estimation Model for Southern Africa (SLEMSA).

- SMITH, H.J., VAN ZYL, A.J., CLAASSENS, A.S., SCHOEMAN, J.L., SMITH H.J.C. and LAKER, M.C., 1997. Soil loss modelling in the Lesotho Highlands Water Project (LHWP) catchment areas. Erosion and Sedimentation, Part 1: Soil loss, Contract 617. Univ. Pretoria, Pretoria.
- SMITH, H.J., 1999. Application of Empirical Soil Loss Models is southern Africa: A review. S. Afr. J. plant soil.vol.16(3) pp.158-163.
- SMITHEN, A.A., 1981. Characteristics of rainfall erosivity in South Africa. M.Sc. Thesis, Univ. Natal, Pietermaritzburg.
- SMITHEN, A.A. and SCHULZE, R.E., 1982. The spatial distribution in southern Africa of raifall erosivity for use in the Universal Soil Loss Equation. Water SA, 8, 74 –8, 165 7.
- SOIL CLASSIFICATION WORKING GROUP, 1991. Soil Classification: A taxonomic system for South Africa. Department of Agricultural Development, Pretoria.
- TAYLOR, S., 1998. Ranking soil erosion to aid rehabilitation. Natural Resource Management (March 1998), 12-17.
- THWAITES, R.N., 1986. A technique for local soil erosion survey. South African Geographical Journal 68, 67-76.
- TONGWAY, D., 1994. Rangeland soil condition assessment manual. CSIRO Publications, Australia. ISBN 0-643-5543-7.
- TONGWAY, D. and HINDLEY, N., 1995. Manual for assessment of soil condition of tropical grasslands. CSIRO Publications, Australia. ISBN 0-643-0577-9.
- TROEH, F.R., HOBBS, J.A. and DONAHUE, R.L., 1980. Soil and water conservation for productivity and environmental protection. Englewood Cliffs NJ, Prentice Hall.
- TURNER, D.P., 2000. Soils of KwaZulu-Natal and Mpumalanga: Recognition of Natural Soil Bodies. PhD Thesis, University of Pretoria, South Africa.
- VAN ZYL, A. and LORENTZ, S.A., 2001. Predicting the impact of farming systems on sediment yield in context of integrated catchment management. WRC progress report. ISCW publication, Pretoria.
- VOGEL, H., 1991. Interrill erosion from sandveld soils under conservation tillage in Zimbabwe. Conservation tillage for sustainable crop production systems, Project Research Report No.2. Agritex, Soil and Water Conservation Branch, Harare: 25 – 39.
- WESSELS, K.J., 2001. Gauteng Natural Resources Audit. GB3404, ARC-ISCW Report No. GW/A/2001/41. Agricultural Research Council.

- WESSELS, K.J., VAN DEN BERG, H.M., VAN DER MERWE, J.P.A., SMITH, H.J., VAN ZYL, A.J. and TWYMAN, L., 2001. Mapping and monitoring the conservation status of the natural resources of Mpumalanga Province by means of remote sensing and GIS technology. ARC-ISCW Report No. GW/A/2001/9.
- WILLIAMS, J.R., 1975. Sediment-yield predictions with universal equation using runoff energy factor. In: Present and Prospective Technology for Predicting Sediment Yields and Sources proceedings of Sediment-Yield Workshop, USDA Sedimentation Laboratory, Oxford Mississippi, November 1972 (Agricultural Research Service Report ARS-S-40), USDA, Washington, D.C., pp.244 252.
- WILLIAMS, J.R. and BERNDT, H.D., 1977. Sediment-yield predictions based on watershed hydrology. Transactions of the ASAE 20(6): 1100 1104.
- WISCHMEIER, W.H. and SMITH, D.D., 1958. Rainfall energy and its relationship to soil loss. Trans. Am. Geophys. Union (39): 285 291.
- WISCHMEIER, W.H. and SMITH, D.D., 1978. Predicting rainfall erosion losses. USDA Agricultural Research Service Handbook 537. U.S. Department of Agriculture, Washington, D.C. 58pp.
- WISCHMEIER, W.H. and SMITH, D.D. 1978. Erosion losses from cropland east of the Rocky mountains. USDA, ARS Handbook 282. USDA, Washington.
- WOODHILL, J and ROBINS, L., 1998. Participatory evaluation for LandCare and catchment groups. A guide for facilitators. Greening Australia, Australia.
- YU, B. and NEIL, T., 1991. Global warming and regional rainfall: The difference between average and high intensity rainfalls. International Journal of Climatology, vol. 11, 653 661.