Effects of Texture, Rainfall and Slope on Rainfall Interrill Sediment Transport
Agarwal A and W T Dickinson

Nordic Hydrology, Vol. 22 : 227-242, 1991

Experiments were conducted with rainfall intensities of 45.0 and 140.0 mm/hr at slopes of 2, 9 and 20 percent to separate the dominent effect of rainfall intensity on sediment transport capacity. The effect of sediment size on rain-intensity contribution to unit sediment transport capacity was also investigated. Regression models for rain-intensity contribution to unit sediment transport capacity Y were developed including median particle diameter X of sediment as an additional independent variable. The constants of power relationships of the form Y = a Xt were found to vary with the median particle diameter of the soil.

Effect of Texture, Flow and Slope on Interrill Sediment Transport
Agarwal A and W T Dickinson

Soil and Water Division of ASAE : vol. 34(4), 1726-1731, 1991

Experiments were conducted on a uniform interrill flow produced without rainfall to study the sediment transport capacity of flow. The effects of sediment size on interrill sediment transport capacity was investigated. The coefficients of a power relationship of the form Y = a Xh were observed to vary with median particle diameter of soil. Regression model was developed including the sediment size as additional independent variable.

Drawdown at a Large-Diameter Observation Well
Chachadi, A.G., Mishra, G.C.,and Singhal, B.B.S.

Journal of Hydrology,127(1991)219-233.

A generalised discreet kernel approach has been used to analyse the effect of growth production well, storage and observation well storage on drawdown at any point in the aquifer during pumping and recovering.

Non-dimensional time-drawdown plots have been presented for four different combinations of a production well and an observation well, which may or may not have storage. The non-dimensional time-drawdown plots include the response of the aquifer during the recovery phase. The contribution from the observation well storage to the aquifer during pumping,and

the replenishment of the observation well storage during recovery have been presented for specific cases.

Spectral Response of Suspended Sediments in Water Under Controlled Conditions
Choubey, V.K., and Subramanyan, V,

Journal of Hydrology,122(1991) 301-308.

A laboratory experiment using spectral radiometer has determined the spectral characteristics of suspended sediments in water under controlled conditions in four wave length bands (0.45-0.9) as the function of type and concentration of sediment. The pattern of reflectance of natural black and brown sediments from a small catchment in Central India has been determined, as has the feasible limit of concentration of sediments that can be measured in the four wavelength bands used by the Indian Remote Sensing satellite LISS-I. The spectral response of sediment-laden water is more affected by particle size than by the concentration of suspended sediments; the spectral response depends upon the color, type, size and mineral composition of the sediments. When the concentration of sediments exceeds 90 or 140mgl (for black and brown sediments respectively), the respective spectral responses become poorer.

Theoretical Evaluation of Modified Wenner Array for Shallow Resistivity Exploration
Goyal V C, S Niwas and P K Gupta

Ground Water, Vol. 29, No. 4 : 582-586, 1991

A mathematical study has been carried out for critical evaluation of the earlier reported Modified Wenner method for shallow resistivity exploration. It provides a theoretical basis for quantitative interpretation of the measured resistivity data and quantification of the depth of investigation and various potential electrode separations. Synthetic resistivity data for few three-layer models have been generated and compared with the Wenner, Schlumberger, and two-electrode curves. It is established that the MWA and TEA lead to identical theoretical response.