

CE202A Vadose Zone Hydrology

Consider the case of solute transport in the shallow subsurface (soil depth between 0 to ~2 meters). There is a wide range of soil parameters, processes and variables that need to be considered for modeling., including soil texture, soil moisture, temperature and atmospheric processes, vegetation, soil chemistry, and the chemical composition of the solutes. Provide a detailed discussion of the effects of all these elements on transport, including interactions . Your discussion should consider and analyze a baseline case, followed by showing how varying the characteristics of the baseline conditions affects transport. Define clearly the dependent transport variables that you analyze.

CE202B Geostatistics and Stochastic Hydrogeology

Kriging estimates depend on the kriging system selected, the location of the measurements, the statistical properties of the attribute, and the pattern of spatial variability. Discuss and demonstrate this dependence through the solutions of simple examples.