



Production of a global Curve Number map for Hydrological simulation purposes

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In the numerical distributed hydrological simulation a correct characterization of the watershed from the hydraulic point of view (permeability, fracturing level of the rock bed, presence of complex groundwater system, etc) is often quite complex. Such complexity derives from the problems inherent to either the choice of the variables that better represent such characteristics and the difficulties of measuring/estimating such soil characteristic at scales that are representative both of the average values and of the spatial/temporal variability of the variables themselves. Eventually, the correct choice of the representative variable cannot prescind from the particular hydrological model that will be employed. On the other hand, an accurate representation of the permeability of the soil in a watershed can be vital for the correct reconstruction of the discharge flow series in a given watershed, especially for what concern the extreme events (droughts and floods). In this work a global map of Curve Number, used to characterize the permeability of the surface layer of the soil, was produced in order to be used in the assessment of the flood risk at global scale in the framework of the Global Assessment Report 2013. The map was based on a global pedological map following the US classification of the soil and it covers the whole land extension but the polar regions.