



The effect of suspended load on bed topography in wide channel bends

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We extend the analysis of Seminara & Solari (1998) concerning the equilibrium flow and bed topography in curved cohesionless wide channels accounting for the effect of suspended sediment transport. The latter authors developed a non linear analytical model of flow and bed topography in rivers with constant curvature and width, showing that at a given stage a natural river adjusts its bed by developing an equilibrium topography such to satisfy the constraint to both water and sediment flux to keep constant at each cross section. Here we assume a slowly varying distribution of the river width, arguing that, at a given stage, rivers adjust their width to satisfy the latter constraints. The model is finally extended here to the case when sediment transport occurs both as bedload and as suspended load.

References: Seminara G. and Solari L., Finite amplitude bed deformations in totally and partially transporting wide channels bends, *Water Resources Research*, Vol. 34, N.6, 1585-1598, 1998.