

A quantitative study of the hydraulic erosion rate in Peru

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A limited number of studies have addressed the quantification of the hydraulic erosion rate (ER) in Peru. The last official map was published in 1996 and showed qualitative information on the matter. Our study was aimed to address such limitation by following a quantitative approach, based on up-to-date datasets published by Japan Space System, FAO Land Water Division, World Soil Museum. We quantified the ER for the year 2000 and 2010 by applying the RUSLE equation and produced ER maps for Peru at a resolution of 5.5 km. The results indicated that the northern Andean region exhibited the highest ER values. Meanwhile, localized spots of higher ER values were observed in the southern Amazon region, which might be related to illegal mining practices. Peru is rapidly developing its volume of infrastructure and changes in land use are expected in the near future. The ER maps have the potential to provide decision makers with information to develop erosion control regulations that are necessary to deal with the fact we described above. Further, some researchers have highlighted the fact that there is insufficient information on sediment yield estimates in the Peruvian region on the Amazon catchment. We believe that our ER results can provide valuable information to indirectly quantify the sediment yield in such region.