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A SOIL EROSION MAP FOR THE MEDITERRANEAN BASIN, CURRENT AND FUTURE TRENDS

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Many studies developed soil erosion risk modeling methodologies at various scales from regional to Continental scale. The MESOEROS project is the first which aims to understand the soil loss risk on the whole Mediterranean basin for the current climate context and also for the predicting climate changes expected for the 21st century. Two models are used: MESALES (expert rules model) and PESERA (physical based model). Model inputs come from homogenized regional datasets that cover the whole study area. After being calibrated with watersheds data and the PESERA modeling on Europe, the two modeling results are analyzed as well as the model sensitivity to the different input parameters. The modeling validation allow understanding the integration of climate change on modeling results. MESALES and PESERA point out an evolution of the soil erosion risk between the 20th and the 21st centuries around the Mediterranean basin. The two models assess a global augmentation of the soil loss risk at the Mediterranean scale. They both show an increase – in intensity and surface - of the soil erosion risk on areas already sensitive during the 20th century.