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The Automated Soil Erosion Monitoring System (ASEMS)

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Abstract : The advancements in technology allow the development of a new system that can continuously measure surface soil erosion. Continuous soil erosion measurements are required in order to comprehend the erosional processes and propose effective and efficient conservation measures to mitigate surface erosion. Mitigating soil erosion, especially in Mediterranean countries such as Greece, is essential in order to maintain environmental and agricultural sustainability. In this paper, we present the Automated Soil Erosion Monitoring System (ASEMS) that measures surface soil erosion along with other factors that impact erosional process. Specifically, this system measures ground level changes (surface soil erosion), rainfall, air temperature, soil temperature and soil moisture. Another important innovation is that the data will be collected by remote communication. In addition, stakeholder's awareness is a key factor to help reduce any environmental problem. The different dissemination activities that were utilized are described. The overall outcomes were the development of an innovative system that can measure erosion very accurately. These data from the system help study the process of erosion and find the best possible methods to reduce erosion. The dissemination activities enhance the stakeholder's and public's awareness on surface soil erosion problems and will lead to the adoption of more effective soil erosion conservation practices in Greece.

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