The SAWO (Small And Well Organized) avatar teaches the importance of the aggregates on the soil system and how to determine their stability

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Soil structure is the key factor that determine the soil quality as control the organic matter turnover, soil biology and soil erodibility (Cerdà, 1996; 1998; Wick et al., 2014; Gelaw, 2015). There is a need to understand better the factors and the processes that act on the soil aggregation and the dynamics of the soil aggregation, which will make easier to understand the soil system functioning (Jordán et al., 2011; Jordán et al., 2012; Pulido Moncada et al., 2013). Fire, mines, grazing and agriculture (Cerdà, 2000; Mataix Solera et al., 2011; Cerdà et al., 2012; Hallett et al., 2014; Lozano et al., 2013) determines how the soil structure is highly affected by the humankind. And this determines the sustainability of the land managements (García Orenes et al., 2012; Kropf et al., 2013; Mekuria and Aynekulu, 2013; Taguas et al., 2013; Zhao et al., 2013).

Aggregates are Small And Well Organized (SAWO) structures that allow the water to flow, the air fill the porous and the life to be diverse and abundant in the soil. The SAWO avatar will teach the importance of the functions and the services of the aggregates to students and other scientists, but also to any audience. This means that the experiments and the vocabulary to be used by SAWO will be very wide and rich.

The Avatar SAWO will use different strategies and skills to teach the soil aggregation properties and characteristics. And also, how to measure. Easy to carry out experiments will be shown by SAWO to measure the aggregate stability in the field and in the laboratory, and the soil sampling in the field.

The SAWO avatar will play a special attention to the impact of forest fires on aggregate stability changes and how to measure.

The SAWO avatar will teach how to take samples in the field, how to transport and manage in the laboratory, and finally which measurements and test can be done to determine the aggregate stability.

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References


