Teaching soil erosion in high schools.
A coherent set of experiments showing processes and factors.

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The need for soil erosion teaching

The national program for French high schools requires teaching about soils. Because soils are new in the curriculum, “Life and Earth sciences” teachers have a limited knowledge about soils. Hence, pedagogic resources need to be expanded.

Experiments for the classroom

The description of the experimental set is made available to teachers. It requires only easy-to-find and cheap materials.

A procedure for splash
Factors: Drop size and aggregate size

A procedure for interrill erosion
Factors: Soil cover and rainfall intensity

This experimental set allows to use the knowledge acquired in both physics and biology-geology courses.

For now, no procedure for rill erosion…
We are looking for ideas to experiment with the factors of rill erosion.
Suggestions welcome!

Outcome

• This work is the base of a new dynamic of collaboration between teaching institutions and researchers.
• Teaching material is available for all teachers
• More material could be built in the future (rill erosion…)

A collaboration between soil scientists and teaching specialists

Teaching specialists
• Soil scientists know about soil erosion.
• Teaching specialists know about teaching.

Collaboration between soil scientists and teaching specialists is needed to build pedagogic resources about soils that teachers can use in the classroom.

A movie showing an experiment and its dataset

Because not all classrooms will go to a soil lab, we have to bring them the lab!

The movie shows a laboratory experiment under rainfall simulation.

The dataset is used as teaching material.

The students plot the data:

The teacher guides the students in explaining the results.

Teaching about soil erosion becomes more than teaching about soil: It is an opportunity to teach the scientific method!

The basis was a real scientific experiment that got published in a peer-reviewed journal.

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