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PESAa - Platform for studying Soil–Atmosphere Exchanges on agricultural soils An agro-environmental equipment for experimentation and acquisition of agro-environmental references

Isabelle Cousin

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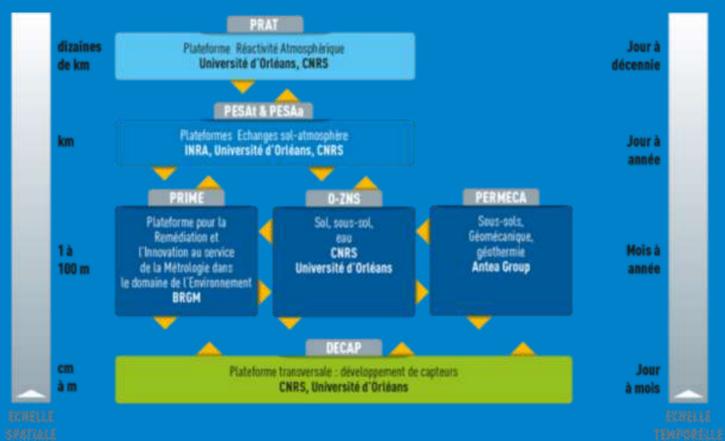
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PESAa - Platform for studying Soil–Atmosphere Exchanges on agricultural soils

An agro-environmental equipment for experimentation and acquisition of agro-environmental references

I. Cousin, A. Ayzac, L. Cottenot, H. Gaillard, G. Giot, A. Grossel, M. Lacoste, C. Le Lay, C. Pasquier, M. Seger
UR 0272 SOLS, Inra, Centre Val de Loire, Orléans, France



The PESA-a platform is dedicated to the characterisation of soil functions and services, especially gaseous and hydric exchanges between soils, water, and atmosphere, in agricultural contexts.

Experiments are conducted:

- in the laboratory under controlled conditions,
- at an Inra experimental plot (Nouzilly, 37),
- in an agricultural watershed (OS² site, 28),
- on your own sites



Rainfall simulator and laboratory measurements of soil physical properties

- Simulated rainfall of 10 to 100 mm/h over a 10 m² surface; monitoring of soil temperature, soil water content, etc..
- Water retention curves, hydraulic conductivity curves;
- Electrical resistivity;



Micro-meteorological device

- Continuous measurements of N₂O, NH₄, CO₂ emissions by agricultural fields ;
- Under development;
- Link with ICOS under study.



Automated N₂O fast-boxes

- Continuous measurements of N₂O emissions by soils at the meter scale;
- Analyses of agricultural practices and soil effect on the N₂O emissions; focus on fertilization mode and soil hydric functioning.
- Available 2019.



Precision irrigation ramp



- Valley precision irrigation system
- Length of ramp: 145 m
- Agricultural field
- Role of irrigation in the production and regulation services provided by agro-ecosystems: crop yield, water infiltration and runoff, water quality, N₂O and CO₂ emissions
- Available 2019.

Contact: Isabelle Cousin (Inra)
Isabelle.Cousin@inra.fr

www.plateformes-pivots.eu

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