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M-POETE, A Mobile-Platform for the Observation and the Experimentation in Terrestrial Ecosystems

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M-POETE, A Mobile-Platform for the Observation and the Experimentation in Terrestrial Ecosystems

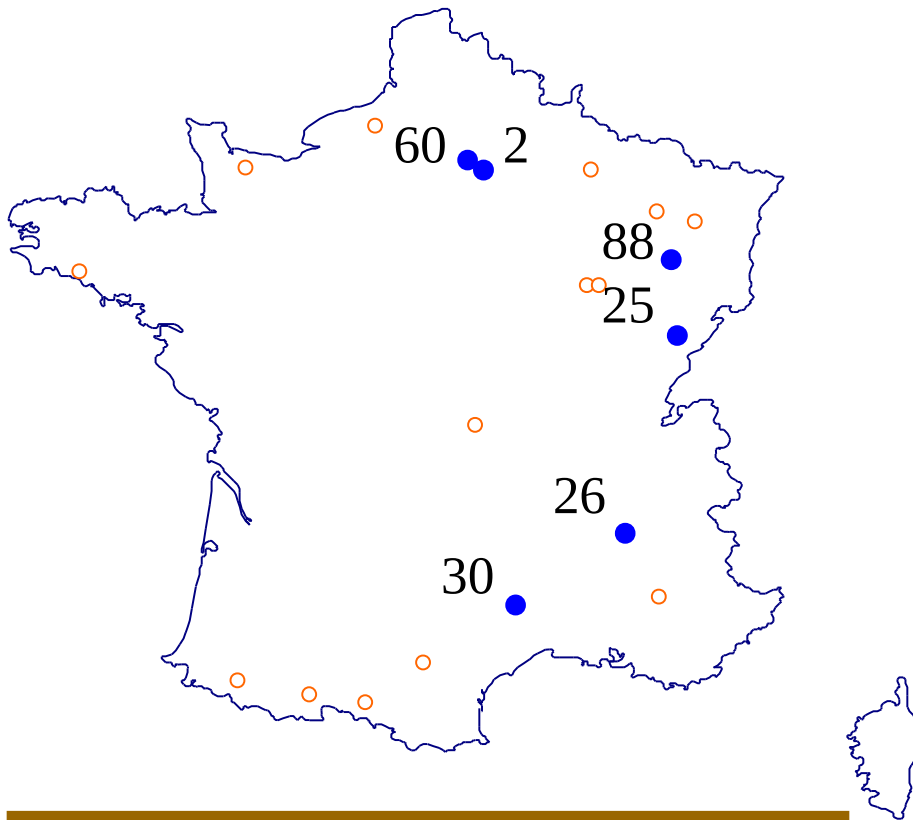
Zeller B., Saint-André L., Bienaimé S., Murat C., Constant T., Bonne F., Longdoz B., Klump K.





Context and Challenges

Why such a platform?



RENECOFOR (102 permanent plots, here shown the beech plots)

- Generalize observed findings (example nitrification) from a well equipped site using a network of sites (network approach, variation of soil parameters, climate.....)
- Need for new networks or combination of networks (territory approach) with respect to specific scientific questions or to respond to a specific policy objective



Context and Challenges

➤ Challenges

Improvement of knowledge and multi-disciplinary approach



Missions

Mobile Laboratory Units **Missions:**

- Characterize terrestrial ecosystems (vegetation, soils, climate)
- Provide a backbone for measurement campaigns (short –term fluxes, special events, access to non stable molecules.....)
- Research and development of *in situ* techniques and high frequent and/or non destructive measures (instant fluxes, fragile non stable samples, preservation of samples)

Mobile Laboratory Units **Dutys:**

- Mobile laboratory provides basic equipment for field based measurements in numerous terrestrial ecosystems.
- Modularity for targeted campaigns
- Can host specific equipments provided by the applying research teams



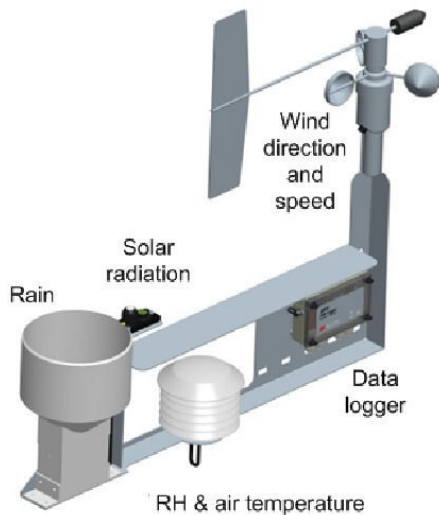
Characterize terrestrial ecosystems

- Mobile lab provides adaptable infrastructure (lab mobile, Polaris, trailer) to set up well designed field based measurements.
- The whole is highly mobile and needs few time to move from site to site.
- Use of the “Polaris” optimize transport time between sampling sites and analysis base, improve the transport of equipment.
- Basic equipment:
 - Common** toolbox: high precision GPS, meteorological devices
 - Soil** toolbox: Soil corers, humidity probes, sieves, soil physics toolbox,..
 - Vegetation** toolbox: tree height, diameter, LAI, T-LIDAR,...
 - Microbial** toolbox: sample preparation tools (sampling, isolation,

Provide a backbone for measurement campaigns (short – term fluxes, special events, access to non stable molecules.....)

- Lab mobile and trailer(s) equipped with on board analyzers (NIRS – MIRS, PICARRO....) or sample preservers (lyophilisation, liquid N2) to support multi-disciplinary research.

- Improves the temporal and spatial resolution of field based measurements for



its

Research and development of in situ techniques and high frequent and/or non destructive measures (instant fluxes, fragile non stable samples, preservation of samples)

- Characterization of solid and liquid samples (NIRS – MIRS, 18O and 2H analyzer)
- Characterization of the vegetation DRONE (Lidar, Multi-channel cameras, Infrared camera,..)
- Microbiology = preservation of samples



nts of samples



Access

Open platform from the national infrastructure ANAEE-Fr

Applications soon available on the ANAEE-Fr website

You are very welcome !!!!!