

Meso-scale Ecotron



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- 24 units (future aim: 36), lysimeters of 1 m diameter, 1 m deep
- Sun-lit, control of air & soil temperature, air humidity, precipitation, [CO₂], soil water table – future aim: wind speed, additional light
- Automated measurements of all above variables → continuous CO₂ and H₂O fluxes (future: CH₄ and N₂O)
- Designed to hold monoliths (intact soil + vegetation), but can be used for other purposes as well (e.g. small crops)
- Planned to be operational 2020, on campus (UAntwerp)

FATI-platform



FATI-platform

- 12 units, plots of 3 m diameter, 0.7 m deep
- Can be filled with monolith or with multiple smaller mesocosms
→ both natural and more controlled systems possible
- Open-air = more realistic environment
- Precipitation control (automated rainout shelters + irrigation), temperature increase possible, incl. heat waves (infrared lamps)
- Automated measurements of range of environmental and ecosystem variables (continuous energy balance, detailed vegetation temperature with IR camera, greening, etc.)
- In testing phase; operational 2019, on campus (UAntwerp)

Envisaged research

- Multi-factorial and/or gradient experiments → very interesting regarding modelling, especially with continuous measurements
- Climate variability is a hot topic → impacts of longer dry and wet periods in combination with other global changes:
 - heat waves during longer dry phases
 - biodiversity decline as potential aggravating factor
 - increased N deposition
- Adaptation and mitigation: testing stress-resistant cultivars, management practices (e.g. mowing, fertilizing) → nature-based solutions
- Platforms also suited for (further) technology development

Envisaged research

- Important: existing and planned platforms in Belgium are complementary, and can thus be used in major collaborative projects, e.g. cross-cutting ‘Mission-oriented research’ (EU)

