

The french long-term intensive observation and experimentation network for environmental research in forest ecosystems

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SOERE F-ORE-T

The French Long-Term Intensive Observation and Experimentation Network for Environmental Research in Forest ecosystems

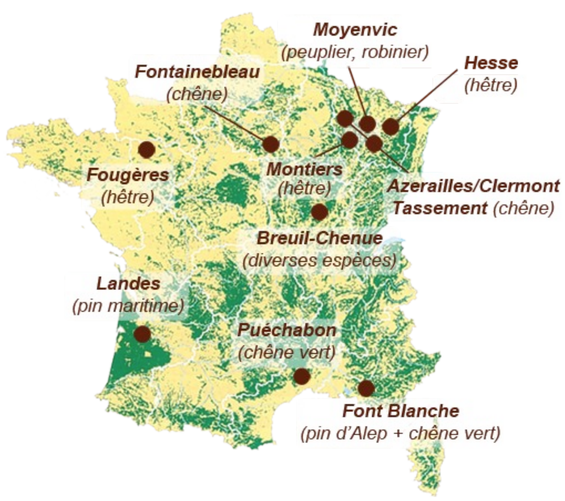


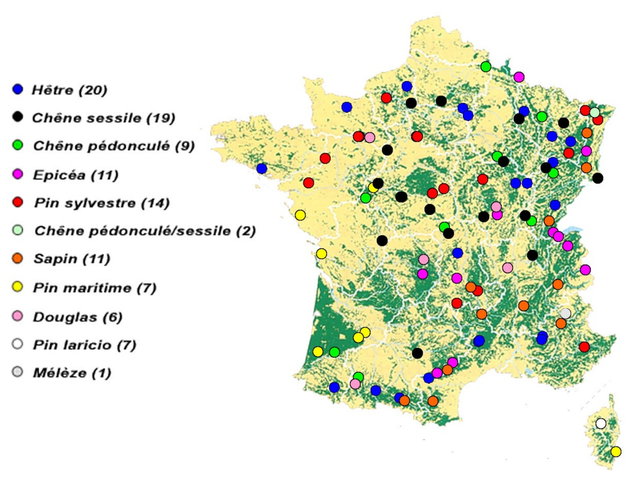
History : the network was created in 2002 under the framework of GIP ECOFOR. Thanks to the high research level performed in the network, it got the French label SOERE in 2010 (out of 13 SOERE in total, all fields together, in France)

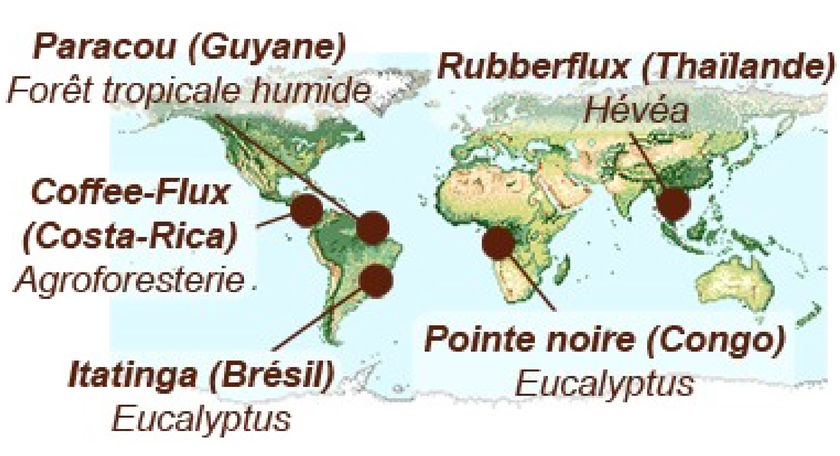


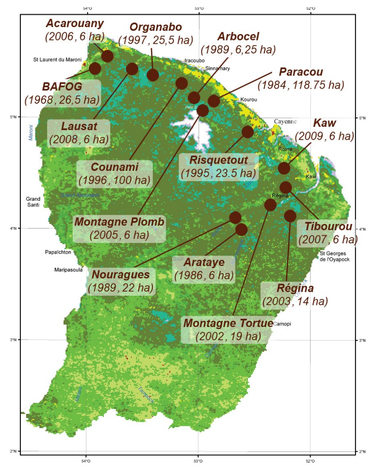
The overall objectives are to understand the functioning of forest ecosystems by studying stocks and fluxes of carbon, water and nutrients; by identifying the processes involved in these fluxes; and by evaluating their responses (and resilience) to perturbations (in particular global changes).

Design of the network: it combines 15 highly instrumented sites with two networks of permanent sample plots. F-ORE-T operates both in France and in the tropics (with local partners)



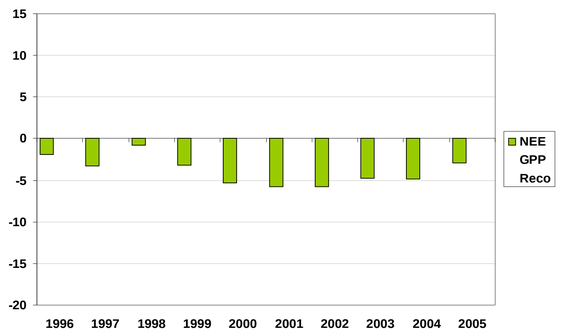






Some results

Inter-annual variability of carbon sequestration (Hesse site, Beech forest)



· Annual net ecosystem C sequestration : **Average of -3.9 ± 1.7 tC ha-1 an-1**

·30% of GPP (or 60% of NPP) used for tree growth

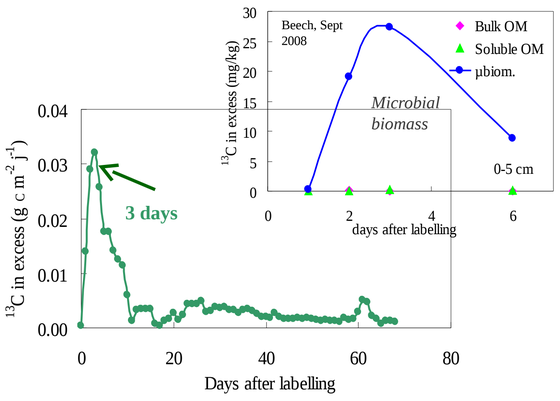
· High inter-annual variability of C sequestration (**8 years of continuous measurements are necessary to get a good precision on Reco; 5 years for GPP and 6 years for NEE**)

Carbon Allocation in Trees and Soil - ANR-07-BLAN-0109 C.A.T.S. (Fontainebleau, Hesse, Landes), 13C Leaf Labeling

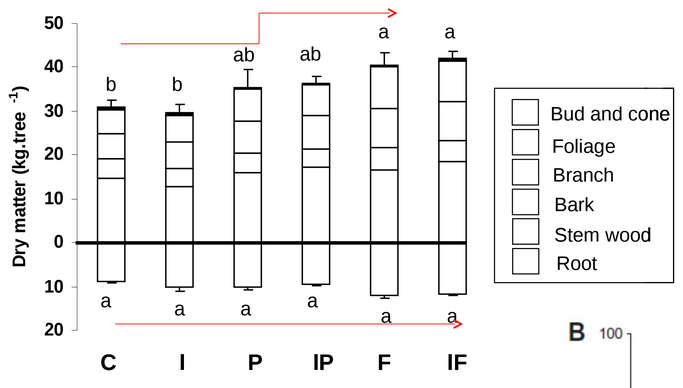


Time lag in soil
- Beech: 12 ~ 32 h
- Oak: 14 ~ 26 h
- Pine: 39 ~ 110 h

Peak time in soil
- Beech: 41 ~ 89 h
- Oak: 38 ~ 89 h
- Pine: 89 ~ 278 h



Impact of fertilisation (P – phosphorus only; F – phosphorus and nitrogen) and irrigation (I) on biomass partitioning (Maritime Pine Landes sites).
Higher impact on above-ground compartments (Trichet et al. 2008)



Fertilisation with potassium in Eucalyptus plantation in Brazil: a higher Leaf Area Index due to a higher leaf life span (Laclau et al. 2008)

Teams and Principal Investigators (PI)

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