


## A long tradition in forest pedology (IRSIA, 195.-...2000)

...  A recent programme on the possible edaphic causes of oak decline (RW, DGRNE, 2000-2003)

... A tree with a deep root system  $\implies$  an opportunity to :

- pay better attention to geological information
- characterize the pedogeochemical background
- link the soil & topsoil fertility assessment
- initiate a reference and didactic system on forest soils

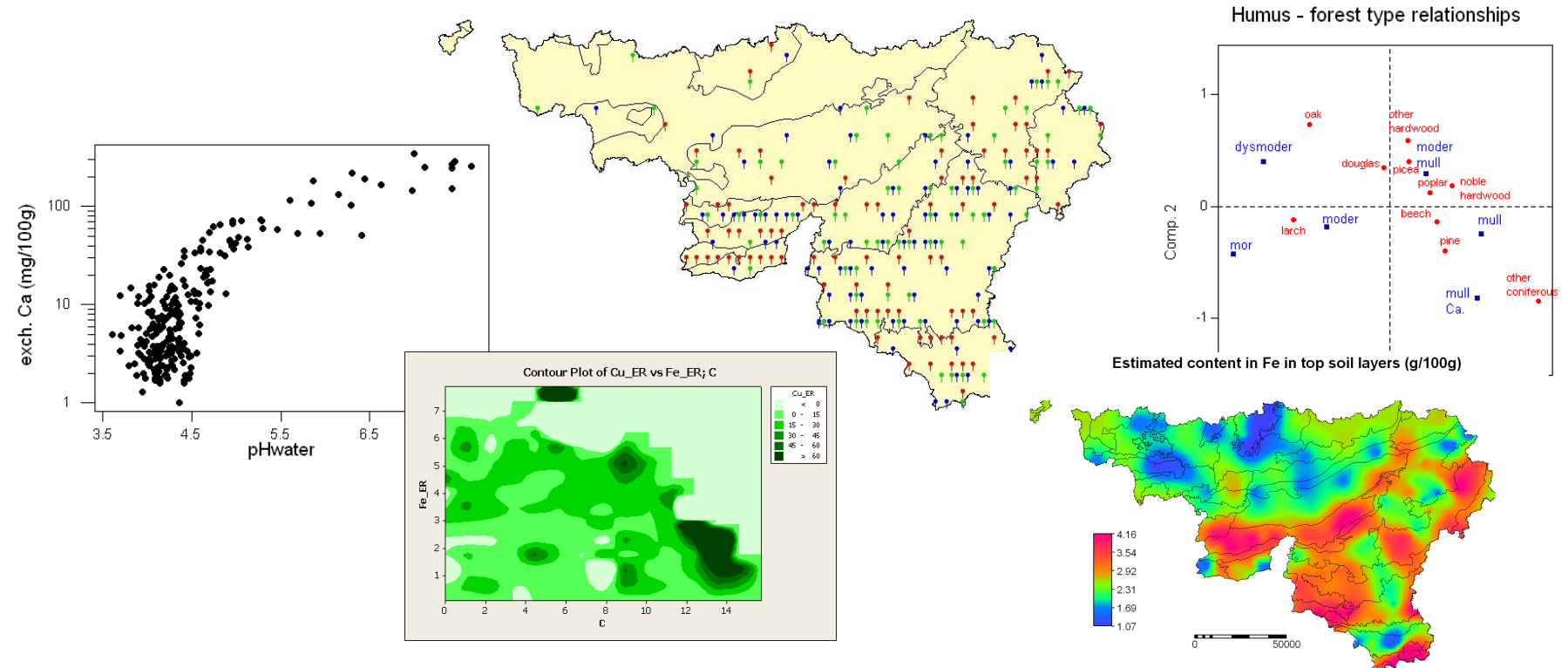


... Protocol :

- $\neq$  hypotheses (hydric or trophic stress, hydromorphy, ...) based on the soil map and its interpretation according to the regional guide for afforestation and the ecological file of species
- 14 sites, 12 trees, 4 augerings (120 cm max), 2 pits, 4 composite samples of topsoil/site
- photograph monitoring, leaf, rock, stone, soil and topsoil analyses
- pH H<sub>2</sub>O, pH KCl, exch. acidity, particle size distribution, TOC, tN, CEC, exch. elements (Am. Ac., NH<sub>4</sub>Cl), P citr., total elements (Ca, Mg, K, Na, P/Mn, Fe, Al, Zn, Cu, Ni, Pb)

# Pedological investigations for the monitoring of the Permanent Forest Survey in the Walloon Region

**Grid soil sampling completed with field observations (geomorphology, soil, humus, vegetation)**



3 periods / 250 plots / 15 soil « groups » / >100 « soil-humus » types / 10 forest types

pH, Exch. Acidity, TOC, N, CEC, Exch. Cations, P (total, min., exch.) , Aqua Regia: [Al, Ca, Fe, K, Mg, Na] / [Cd, Co, Cr, Cu, Ni, Pb] + stone/rock total content (HF + HClO<sub>4</sub> + HCl)