

Belowground indicators of ecosystem function

Kathleen Treseder
University of California Irvine



Why ecosystem function?



- Provides resources for plants, animals, and people
- Carbon storage
- Resilience to environmental change

Belowground ecosystem functions



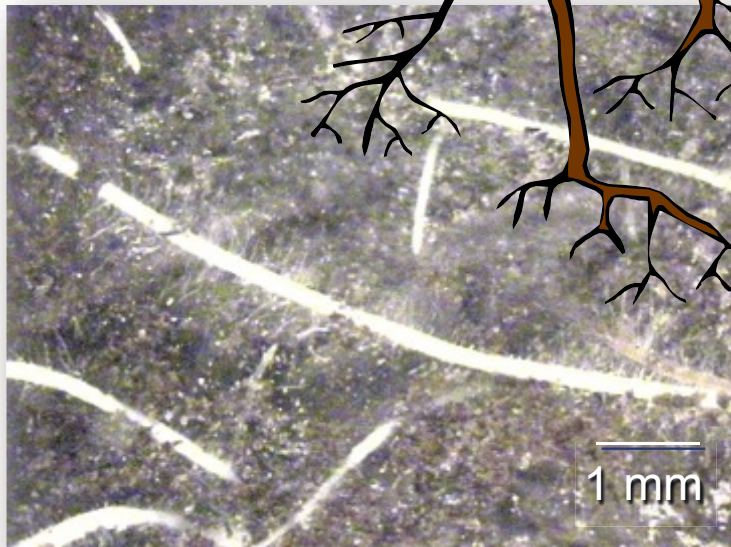
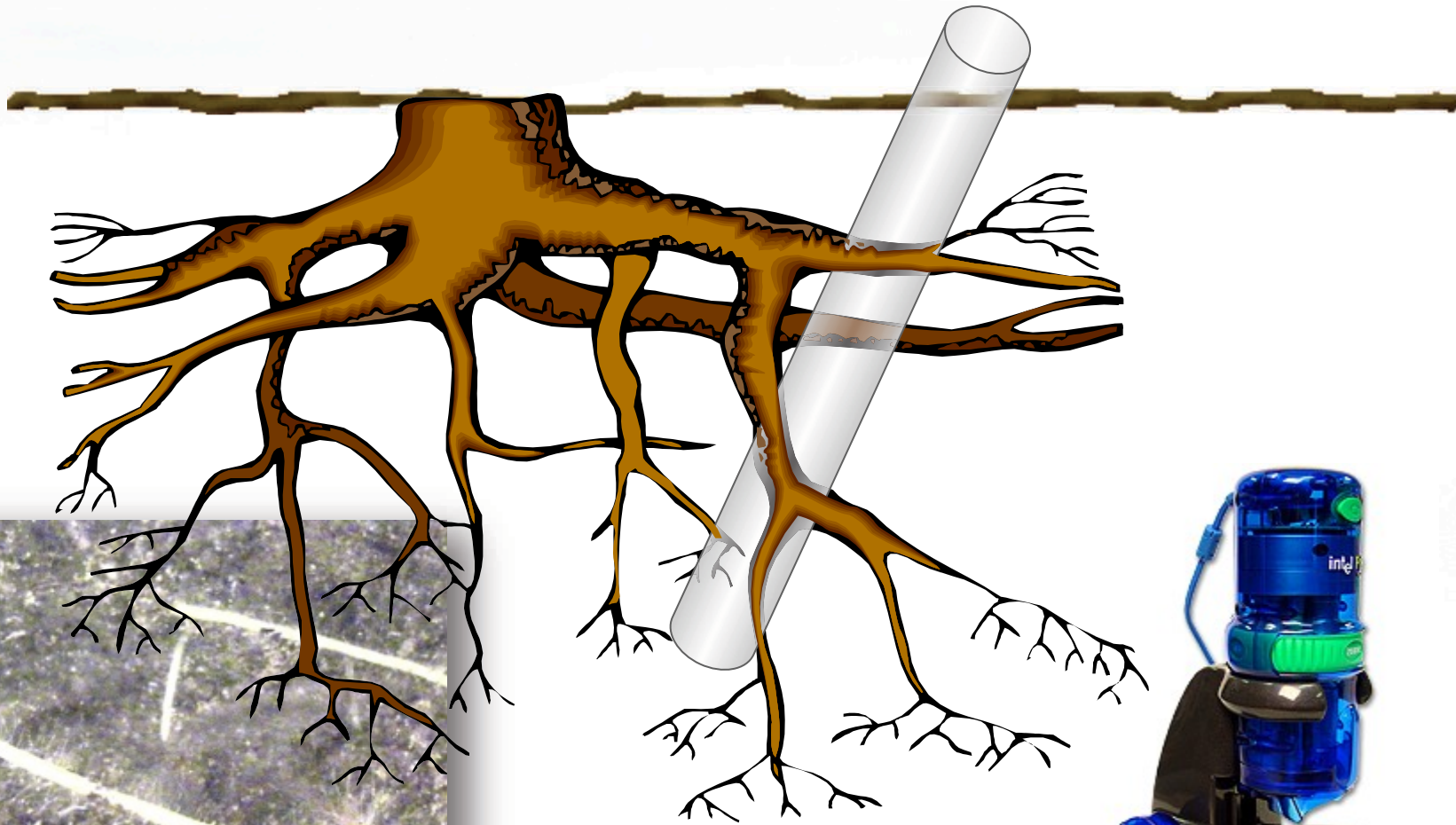
Susan Valot/KPCC

- Root growth
- Mycorrhizal fungi
- Decomposition

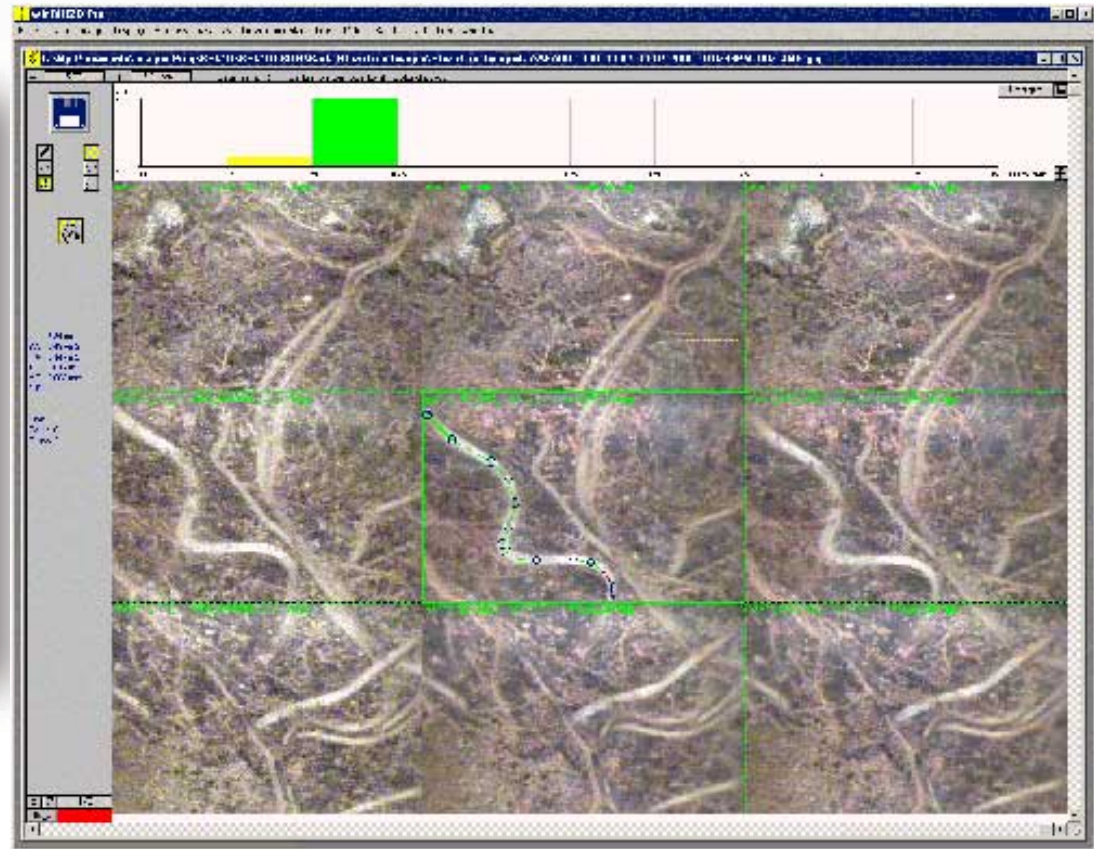
Root growth



Minirhizotrons: Belowground cameras



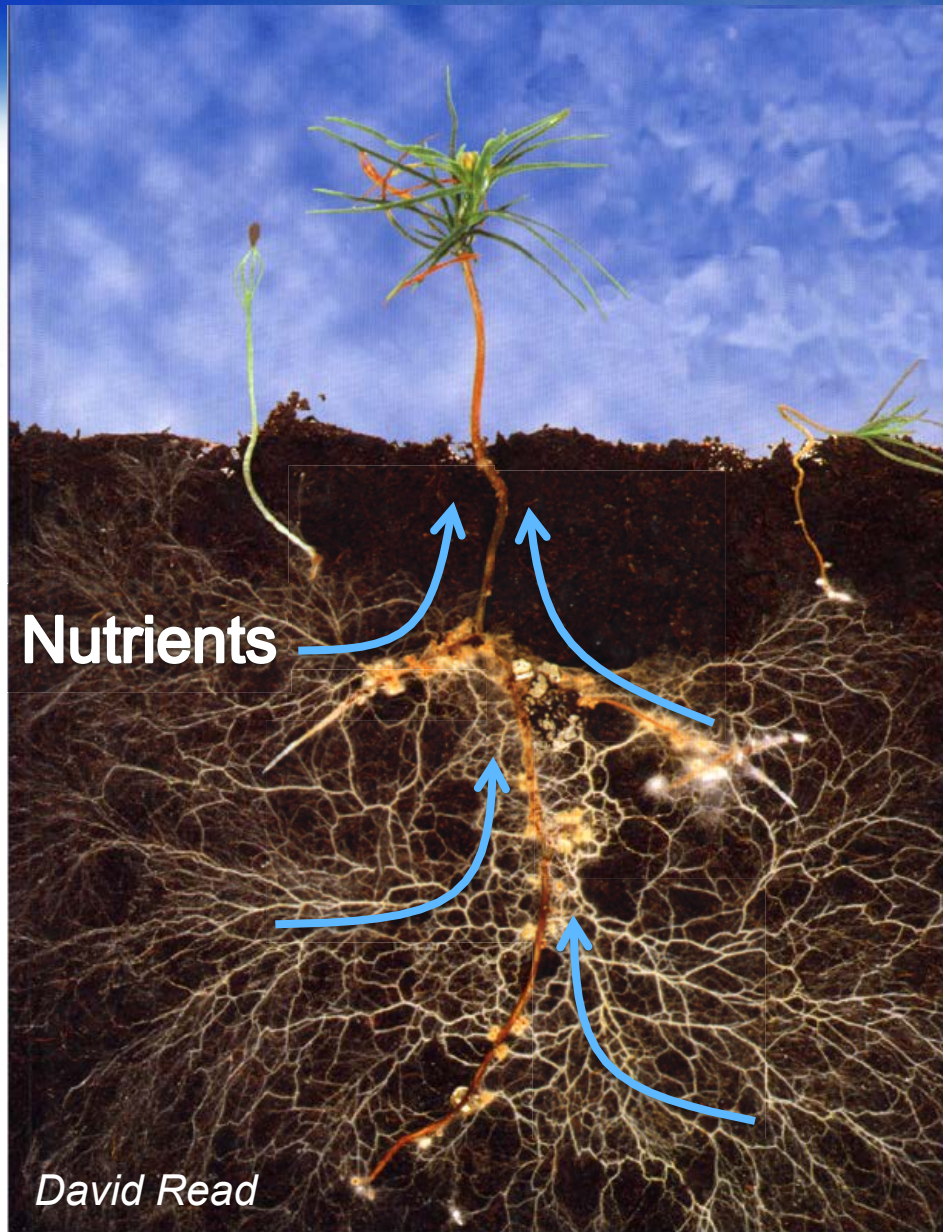
Measuring root length and biomass



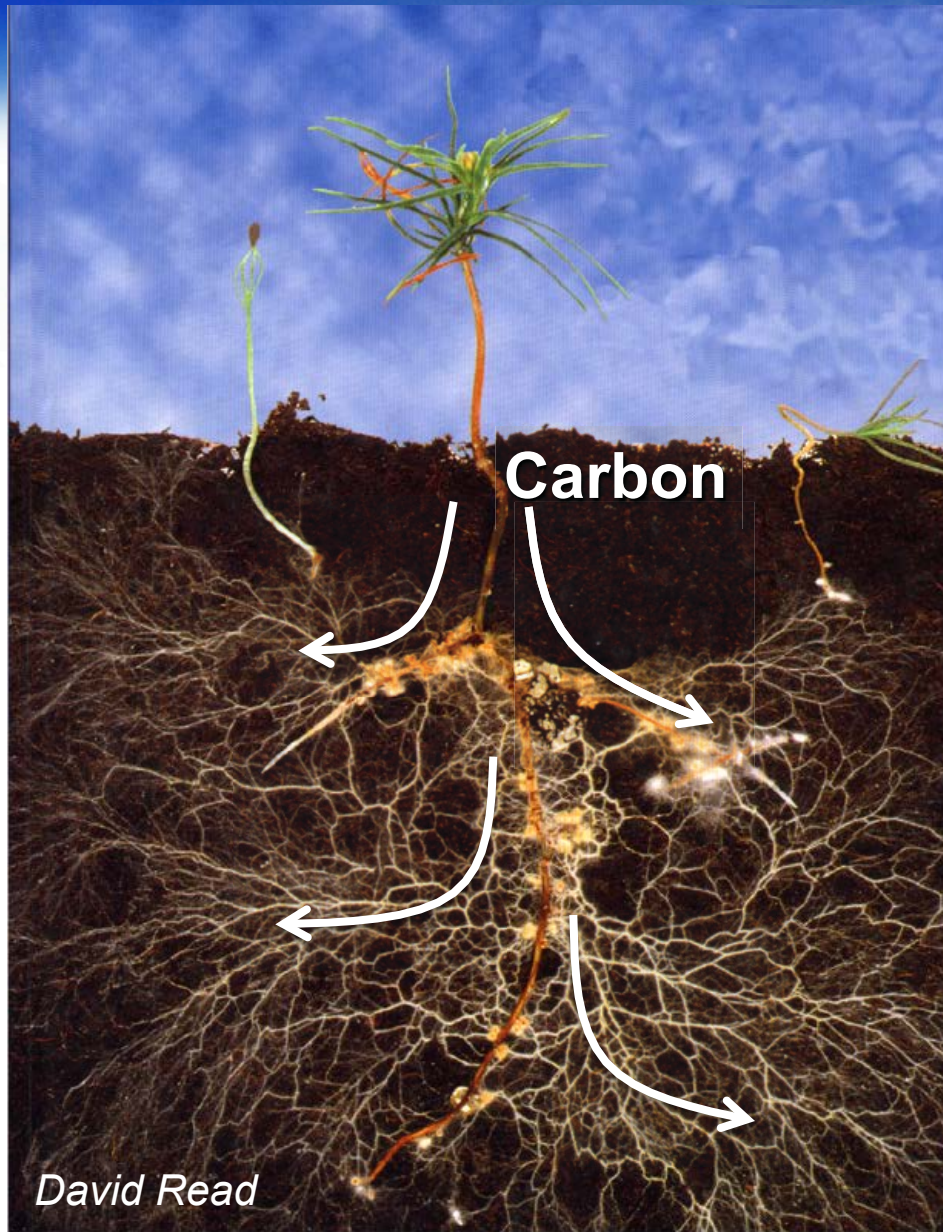
WinRhizo Tron



Mycorrhizal fungi



Mutualism



Mutualism

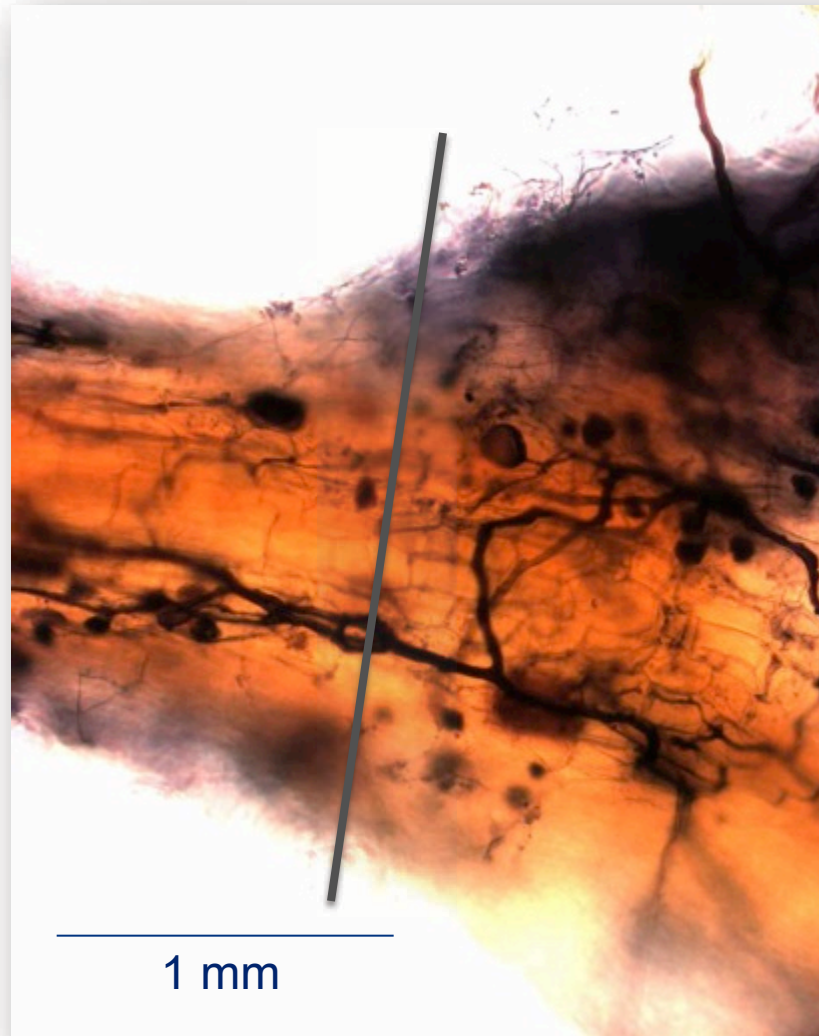
“Little plant, big plant”



without
mycorrhizal
fungi

with
mycorrhizal
fungi

Measuring mycorrhizal fungi



Decomposition

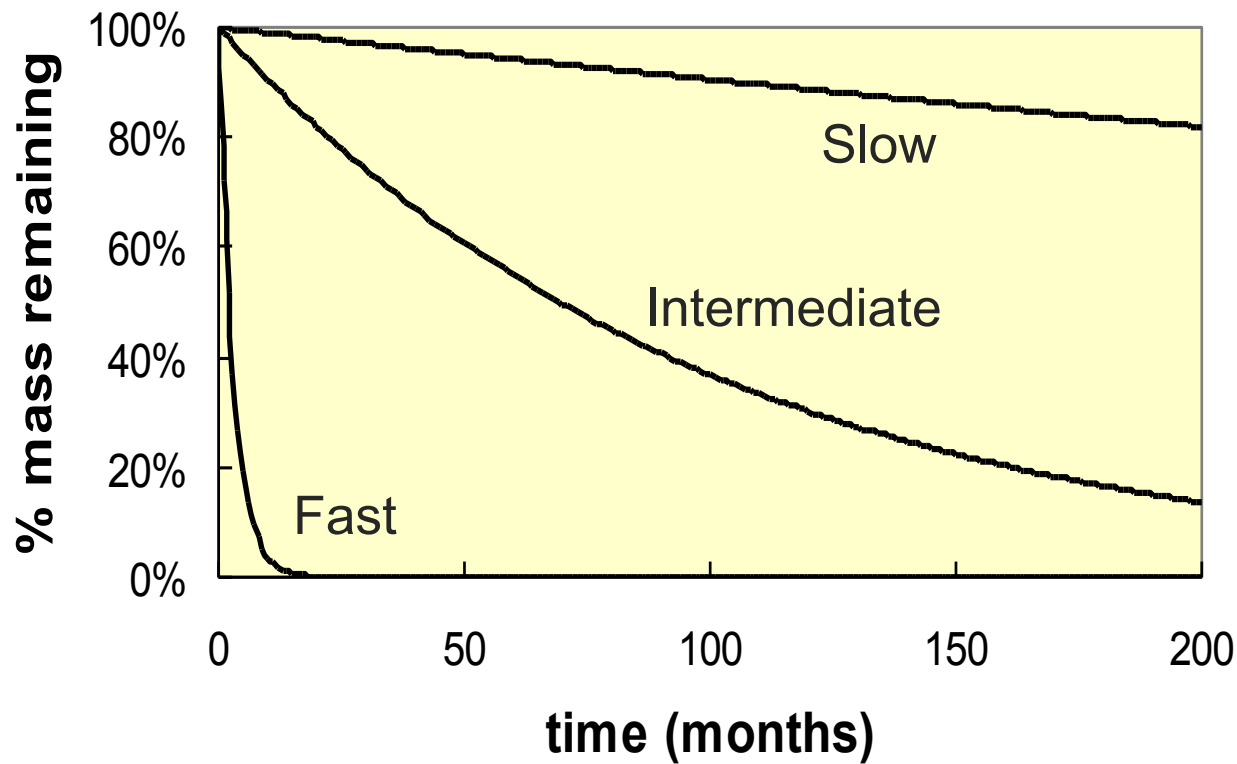


Litterbags measure decomposition



<http://blogs.helsinki.fi>

Decomposition rate = loss of mass



Belowground ecosystem function

- Energy for animals
- Nutrients for plants
- Erosion prevention
- Carbon storage

