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NATIONAL COUNCIL FOR FOREST RESEARCH & DEVELOPMENT  
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# The Dooary Forest Research Platform

## A Decade of Measurements



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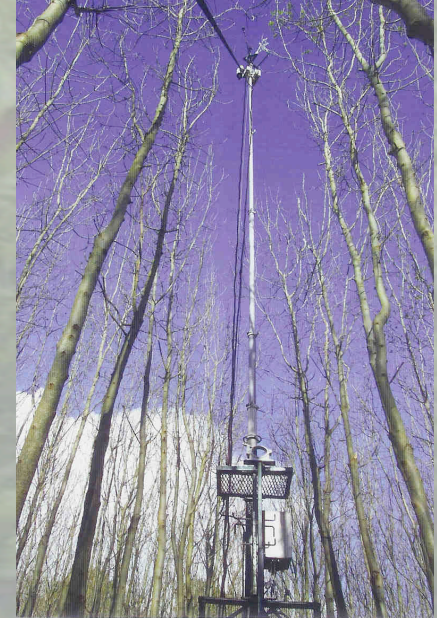
# From Simple Beginnings....





# Present Situation.....

ICOS Level 2 Compliant *with Extras!*





# Measurements

- Eddy covariance-ecosystem scale CO<sub>2</sub>, H<sub>2</sub>O and energy fluxes
- Canopy profile trace gas analysis
- Soil-derived trace gas-auto respiration and photoacoustic trace gas systems
- Sap flow measurements
- Dendrometers for tree growth measurements
- Dissolved C and N measurements, litter fall determinations
- Range of climate/environmental data-atmospheric and soil
- Mini-catchment approach possible
- Soil warming/canopy camera for phenological measurements-**to come!**
- Majority of measurements remotely accessible-linked to centre for data acquisition/analysis in UCD Earth Sciences Institute-**to come!**



# Contribution

- First verifiable estimates of C stocks for National reporting
- First detailed estimates of thinning management impacts on C sequestration
- First estimates of land use change impacts of afforestation, including effect on trace gas emissions
- First field-based estimates of drying and re-wetting cycles-extreme events
- Improved biomass expansion factors-contribution of woody decomposition to C emissions
- Improved assessments of the impact of afforestation on soil C
- Use in National/Pan European/Global Studies on GHG/C budgets/modelling in different forest ecosystems



# Key Points

- Need for continuous monitoring-provision of long-term data sets
- Importance of understanding processes and mechanisms-improved management/modelling
- Improved experimental understanding of climate change impacts
- Need for studies on a greater range of forest types/climatic conditions-coniferous *and* deciduous
- Contribution to upscaling activities and integration with CARBWARE





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