

# CFD Forest Parameter Assessment

Forest Day 26.03.2008

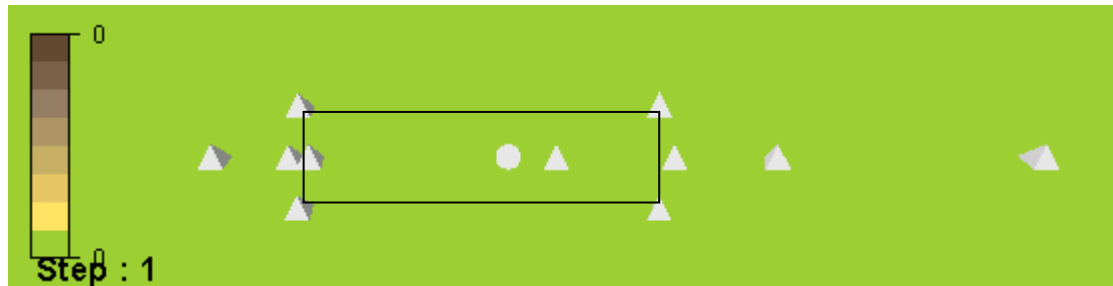
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# Assess parameters available in WindSim

- Forest porosity
- Resistive force
  - proportional to the velocity
  - proportional to the velocity squared
- Forest height
- Number of forest cells
- Solver type

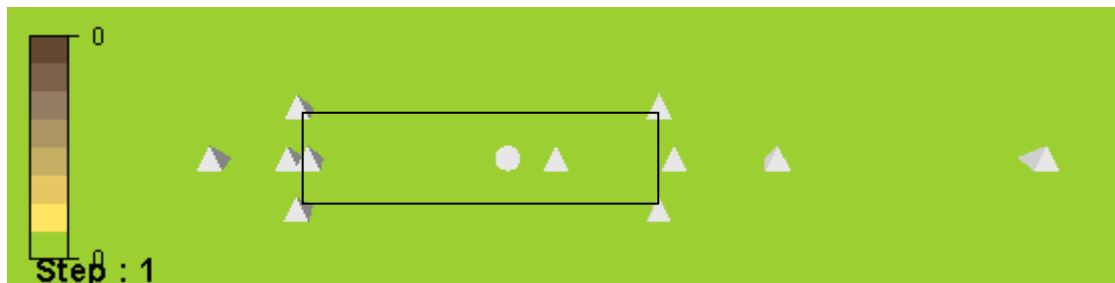
# CFD Forest Test Model

- 80x80m cells
- 296x74x30 cells (ca 24x6x1km)
- Ca 700k cells



# Profile comparison at 7 locations

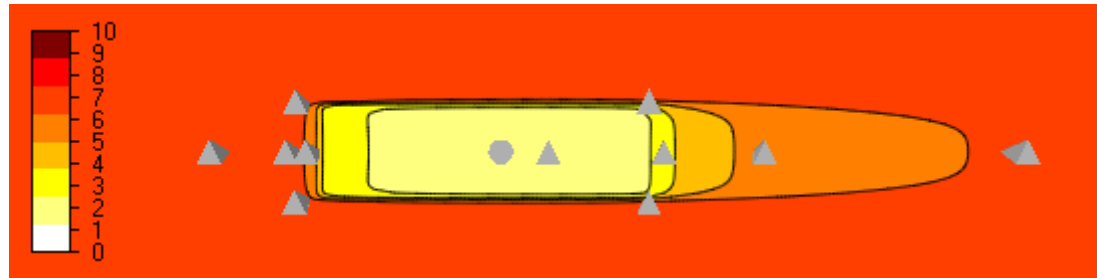
1. Far upwind
2. 200m upwind of forest
3. 200m into forest
4. Deep in forest
5. 300m downwind of forest
6. 2.3km downwind of forest
7. 7.5km downwind of forest



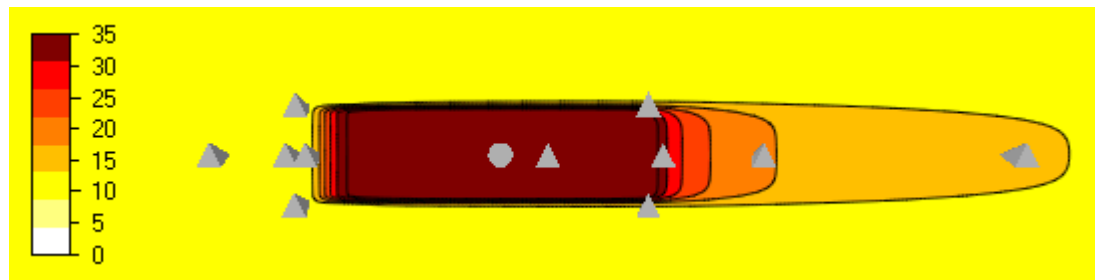
# Profile Comparison

- Turbulence (standard K E model)
- Wind Speed

# Example of Horizontal Section

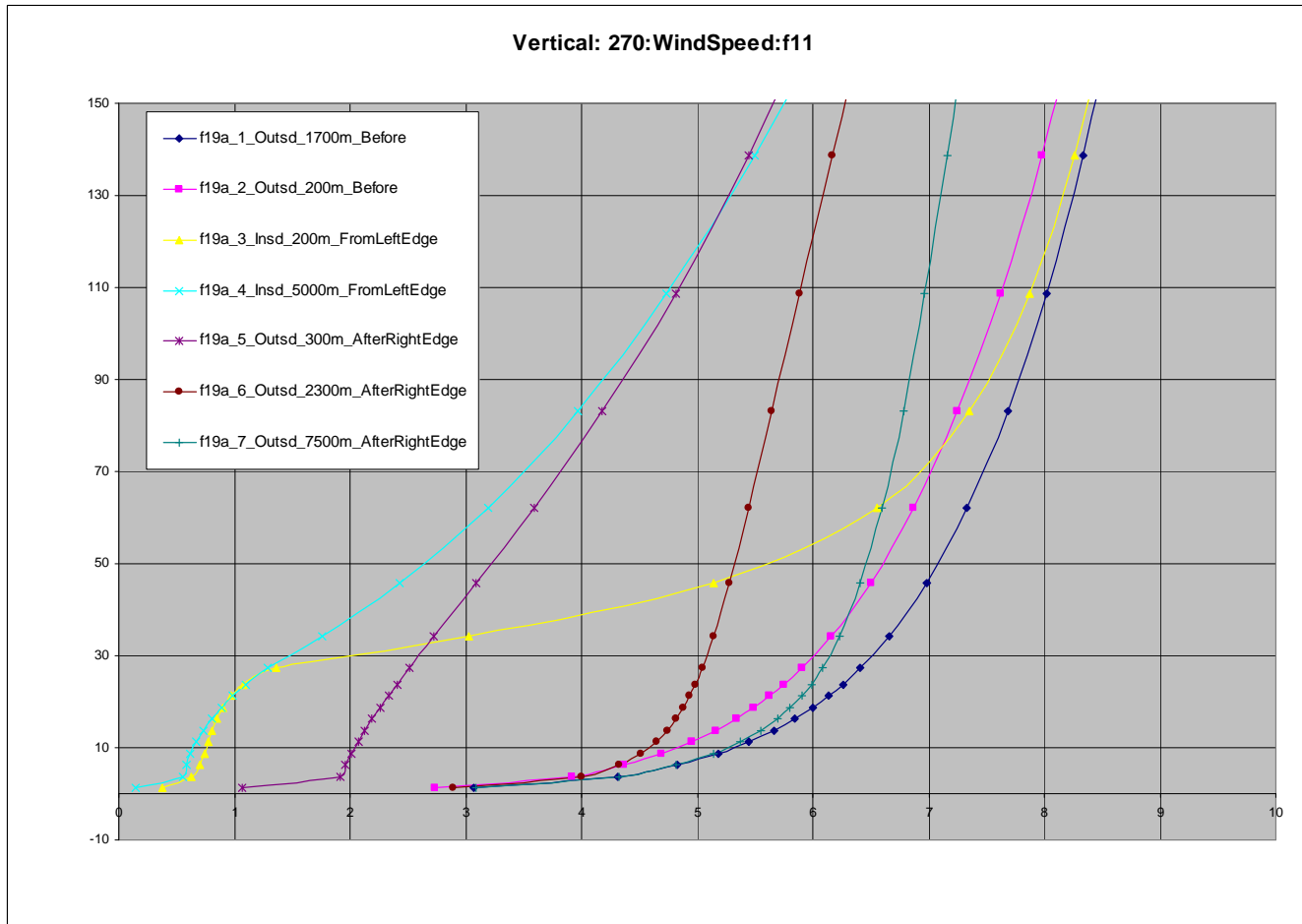


Speed



Turbulence

# Wind Speed Example





# Measurement Comparison Example

