

Forests are Complex!

- Complex biological and physical systems with interaction and interdependency among parts.
- Events or conditions are multiply determined, and there can be uncertainty associated with which factors are determining the forest composition and function.
- For Example....



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Example of Clearcutting and Prediction of Landslides

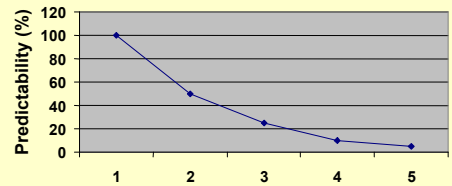


Fig 2.2c

- Degree of Complexity/
of Unknown Parameters
1. Steep Land
 2. + Flat Land
 3. + Volcanic and Till soil
 4. + Wet and Dry Climate
 5. + Deep and Shallow Roots



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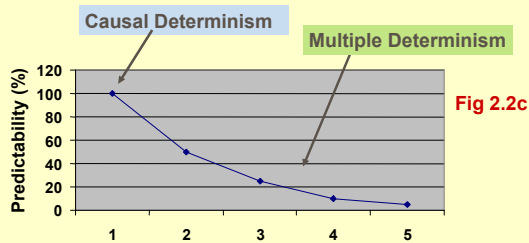


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Predicting Components

- Vegetation = $f(\text{soil, climate, parent material, topography, biota, time})$
- And...
- Soil = $f(\text{vegetation, climate, parent material, topography, biota, time})$



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Establishing Management Objectives

- Predict consequences of scenarios.
- Knowledge of structure, function, and spatial variability of the forest.
- Understand interactions of components.
- Growth / productivity of crop trees.
- Effects of clear-cutting, slash burning.



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Important Role of Forest Ecology

- Provides forest managers with a basic understanding of the way in which the forest ecosystem works.
 - Acquaints them with the major determinants of the system.



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