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Fall 9-1-2000

### FOR 532.01: Forest Ecosystem Processes

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## FOREST ECOSYSTEM PROCESSES (FOR 532)

Fall 2000

Professors: Steven Running and Ramakrishna Nemani

SC 428, Phone: 243-6311, 4632

Text: Forest Ecosystems: Analysis at Multiple Scales (1998), by R.H.Waring and S.W.Running

<u>CLASS SESSION</u>	<u>CHAPTER</u>	<u>PAGES</u>	<u>TOPIC</u>
1	1		Ecosystem analysis principles
2	1		Space/Time scaling principles
3			Demonstration, FOREST-BGC Ecosystem model
			<b>Ecosystem Analysis Principles</b>
4	2		Tree water relations
5	2		Hydrologic processes
6	3		Photosynthesis
7	3		Respiration
8	3		Net primary production
9	3		Decomposition
10	4		Nutrient inputs-outputs
11	4		Internal nutrient cycling
12	5		Stand development
13	5		Forest succession
14	6		Biotic ecosystem disturbances
15	6		Abiotic ecosystem disturbances
			<b>Regional Scaling Principles</b>
16	7		Remote sensing principles
17	7		Topographic/soils analysis
18			Climate principles, MT-CLIM model
19	7		Landcover change analysis
20	7		Landscape pattern analysis
21	8		Regional biology
22	8		Forest-atmosphere interactions
23	8		Regional biogeochemistry
24	9		Global forest distribution
25	9		Global carbon cycle
26	9		Biodiversity and sustainability
27-Final			Present class projects, models

### CLASSWORK RESPONSIBILITIES (this is what your grade is based on)

1] a copy of our new multi-biome BIOME-BGC ecosystem model and MT-CLIM mountain micro-climate model, will be furnished to you. We will do exercises with them on PCs and bring the graphed results to class for discussion throughout the semester.

2] To develop your own skills in systems analysis, I want each student to try a first conceptual layout of an ecosystem analysis problem of their choice, with logic flowchart, key cause-effect linkages and references. This class project will be the basis for our "final", as each student will present their project to the class verbally, and in written form to me.