ES10 Introduction to Environmental Science

Date and Lecturer: Jan 19 J. Bartolome

Topic: Environmental Science

Reading: Chapters 1 and 2 in Botkin and Keller

Lecture Outline

1. The scope and definition of Environmental Science
2. The Scientific Method:
   science and other methods for developing knowledge
   hypothetico-deductive method
   good and bad examples
3. Levels of reliability: description, understanding, prediction, and control
4. Systems of communication in science
   variables and Data
   SI units
5. Models
   types of models: descriptive, conceptual, predictive, others
   model behavior: deterministic, stochastic, chaotic
6. Hierarchies
   basic theory and concept
   systems theory
   nature's hierarchical levels of organization
   Structure and organization of ES10
7. Some influential environmental scientists

Terms and definitions:

Environment: All factors (living and nonliving) that actually affect an individual organism of population at any point in the life cycle.
Science: A systematic method for developing reliable knowledge about nature.
Model: a deliberately simplified construct of nature.
Hierarchy: the arrangement of objects, elements, or values in a graduated series.
System: any part of the universe that may be isolated in thought or deed for the purpose of study.
SI: the international System of Units