What is environmental science?

* The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ study of humanity’s relationship with other organisms and the non-living physical environment
* interdisciplinary because it
  + uses & combines info from many disciplines
  + natural sciences: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_ sciences: geography, agriculture, engineering
  + social sciences: economics, cultural anthropology, policy, politics, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, sociology

What environmental science is **not**

* we need to differentiate between
* environmental science
  + "science" aspect is emphasized
* environmental \_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + "studying", becoming aware of current environmental issues, environmental ethics, environmentalism

Why is environmental science important?

* **Human \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of earth's \_\_\_\_\_\_\_\_\_\_\_\_\_\_**
  + land surface has been transformed by human action
  + atmospheric CO2 concentration has increased by ~30% since the beginning of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + more atmospheric nitrogen is fixed by humanity than all natural terrestrial sources combined
  + accessible freshwater is put to use by humanity
  + 1/4 of \_\_\_\_\_\_ species that ever lived on earth have been driven to extinction
  + 2/3 of major marine \_\_\_\_\_\_\_\_\_\_\_\_\_ are fully exploited, overexploited or depleted
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Human \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ issues
* Challenges and complexity

**Sustainability**

* "the ability of the environment to function \_\_\_\_\_\_\_\_\_\_\_\_ without going into a decline from the stresses imposed by human society on natural systems that maintain life"
  + enables humanity’s present needs to be met without endangering the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of future generations
  + applies at many levels
    - individual, community, regional, national, global
* most experts believe environmental sustainability is not currently being achieved because
  + non-renewable resources (such as fossil fuels) are being used as if supplies were \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + renewable resources (such as fresh water) are being used faster than they can be \_\_\_\_\_\_\_\_\_\_\_\_\_\_ naturally
  + \_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_ are being released into the environment as if environment’s capacity to absorb them was unlimited
  + human \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ continue to grow despite earth’s finite ability to support us

**Human population issues**

* human population surpassed 6 billion in 1999,
* Current Population: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + placing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ stresses on the environment
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ more food and water
  + using more energy and raw materials
  + producing more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + World Bank estimates that 1.3 billion people live in poverty
  + unable to meet their basic needs for food, shelter, clothing

**Challenges and complexity**

* issues may seem simple
  + why don’t we just \_\_\_\_\_\_\_\_\_\_\_ over-consumption, population growth and pollution?
* Solutions are challenging & complex because of
  + multifaceted \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ between ecological, social, cultural and economic factors
  + inadequate scientific \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of how the dynamic environment works
  + how different human \_\_\_\_\_\_\_\_\_\_ affect the environment

Intro to Some Current "Hot" Environmental Issues

In the space below, please show me your note-taking skills by taking notes on the following topics as we discuss them

Commercial fisheries

Drought (CA)

Ozone depletion

Global warming