Week 10 Global Ecology and Conservation

Learning Goal: Evaluate how climate generates global patterns of biodiversity, how human activity impacts biodiversity, and what can be done to mitigate those effects going forward.

After completing the pre-class assignments, students should be able to:

- Explain how solar radiation is unevenly distributed across the globe
- Describe how the distribution of global biodiversity is influenced by solar radiation and air circulation patters
- Explain why vegetation is the most commonly used proxy to characterize terrestrial biodiversity
- Evaluate the evidence for anthropogenic climate change and how it relates to the long-term vs. short-term carbon cycles
- Describe anticipated effects of climate change on the distribution and evolution of biodiversity
- Identify common threats to biodiversity

After meeting this week, student should be able to:

- Differentiate between species diversity and species richness
- Define ecosystem services
- Evaluate data on the effects of alterations to biogeochemical cycles
- Describe traits commonly exhibited by invasive species and their effects on native flora and fauna
- Evaluate the effects of over-exploitation on the evolution of life history
- Relate climate warming to changes in phenology, and how changing phenology of one species can affect the ecology of other species