

October 4, 2019  
MSE 2101 topics

- Plate tectonics
  - Wegener's model of continental drifts
  - Seafloor spreading
  - Differences in seafloor and continental plates
  - Subduction, spreading, faults and hot spots
- Plate tectonics on other terrestrial worlds?
- Atmosphere longevity
  - solar wind stripping
  - impacts and collisions
  - thermal escape
- The source of magnetic field revisited
  - electrically conducting fluid/gas
  - convection in such a layer
  - moderately rapid rotation
- Average temperature on a planet surface – distance and ... ?
- The greenhouse effect: basic idea
  - The sources: vibrations, rotations, fluorescence
  - Greenhouse gases: CO<sub>2</sub>, H<sub>2</sub>O, CH<sub>4</sub>
  - CO<sub>2</sub> on Earth vs. Venus:
    - 1:200,000 in the atmosphere
    - 170,000:1 in the rocks
  - The carbon dioxide cycle: rainfall → erosion → deposits → subduction → melting → outgassing → dissolving