Feedbacks

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Contents

Reading:

Required Reading (everyone):

- Understanding the Forecast, 7, pp. 73–81.

Reading Notes:

The central concept of this chapter is **feedback** loops. This will be very important as we go forward through the semester. So far we have looked at systems where a change (a **forcing**) produces an **effect** (adding CO_2 to the atmosphere causes the temperature to rise). A **feedback** happens when the **effect** becomes a new **forcing** that produces additional **effects** in a cycle.

Feedbacks can either **amplify** or **diminish** the effects of an initial **forcing**, depending whether the feedback is **positive** or **negative**.

- Understand the concept of positive and negative feedbacks.
- Understand how the following feedbacks work and whether each is positive or negative:
  - Stefan-Boltzmann feedback
  - Ice-albedo feedback
  - Water vapor feedback
- What is a **runaway greenhouse effect**? What prevents Earth from having a runaway greenhouse?