Fig 14-9 Trigger and Feedback

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Lessons Learned

- Current climate is not the only possible one for Earth
- A 5-10C temperature shift is associated with a massive climate shift
- Global temperature and CO2 appear to be intimately linked

Chapter 15 The Holocene = Time since end of last ice age (last 15k yr)

About 15,000 years ago, the earth began to warm* and the huge ice sheets began to melt. This had a number of impacts:

1. lake formation in regions left behind by glaciers
2. sea level rise
3. Vegetation expanded

*warming leads CO2 rise

Younger Dryas (YD) - example of Rapid Climate Change

- 14,700 kbp, the warming trend reversed
- relatively cold period lasted about 2,000 years
- warmed very abruptly about 12,000 years ago, and has been relatively stable since then.

YD probably caused by ice sheet breakup and flooding in the northern North Atlantic

The meltwater pulse could cause the thermohaline circulation to shutdown
Reducing heat transport into northern North Atlantic

The YD was probably largest in the North Atlantic, consistent with the thermohaline shutdown mechanism.