## Chapter 6:

Positive and Negative Radiative Forcing

* Imbalanced imposed on the energy budget

Positive and Negative Feedbacks

* Processes that amplify or reduce an initial warming response

Climate sensitivity

* Total Temperature change for a given forcing

Examples of radiative forcings:

* Greenhouse gases, aerosols (volcanoes), clouds, land-use changes (albedo)
* Changes in total solar irradiation total net forcing (1750-2017) is >2.3 w/m2

Fast feedbacks

* Ice-albedo (+)
* Water vapor (+)
* Lapse rate (-)
* Clouds (+\_
* Total fast feedbacks g = 0.4 … 0.7

Slow feedbacks

* Ice sheets
* Permafrost
* Methane clathrates (frozen ocean methane)
* Carbo-cycle feedbacks
* Vegetation
* Weathering thermostat