

ATM S 111, Global Warming: Understanding the Forecast



DARGAN M. W. FRIERSON
DEPARTMENT OF ATMOSPHERIC SCIENCES

DAY 1: APRIL 1, 2014

Outline



- How exactly **the Sun** heats the Earth
 - How strong?
 - Important concept of “**albedo**”: reflectivity
- How the **greenhouse effect** works
 - How the Earth cools
 - And how greenhouse gases lead to *less cooling*

From Before We Asked...



- **What factors influence climate at a given place?**
 - Sunshine (and latitude)
 - Topography/mountains
 - Proximity to oceans and large lakes
 - Ocean currents
 - Presence of trees/vegetation
 - Etc.
- **But what are the main factors that control the global climate?**
 - We'll study this next