MODTRAN Climate models online

A relatively simple software model built years ago for the Air Force, available to anyone free online.

You can plug in your own numbers for things like CO2 and humidity and see what happens in seconds.

MODTRAN stands for MODerate resolution atmospheric TRANsmission.

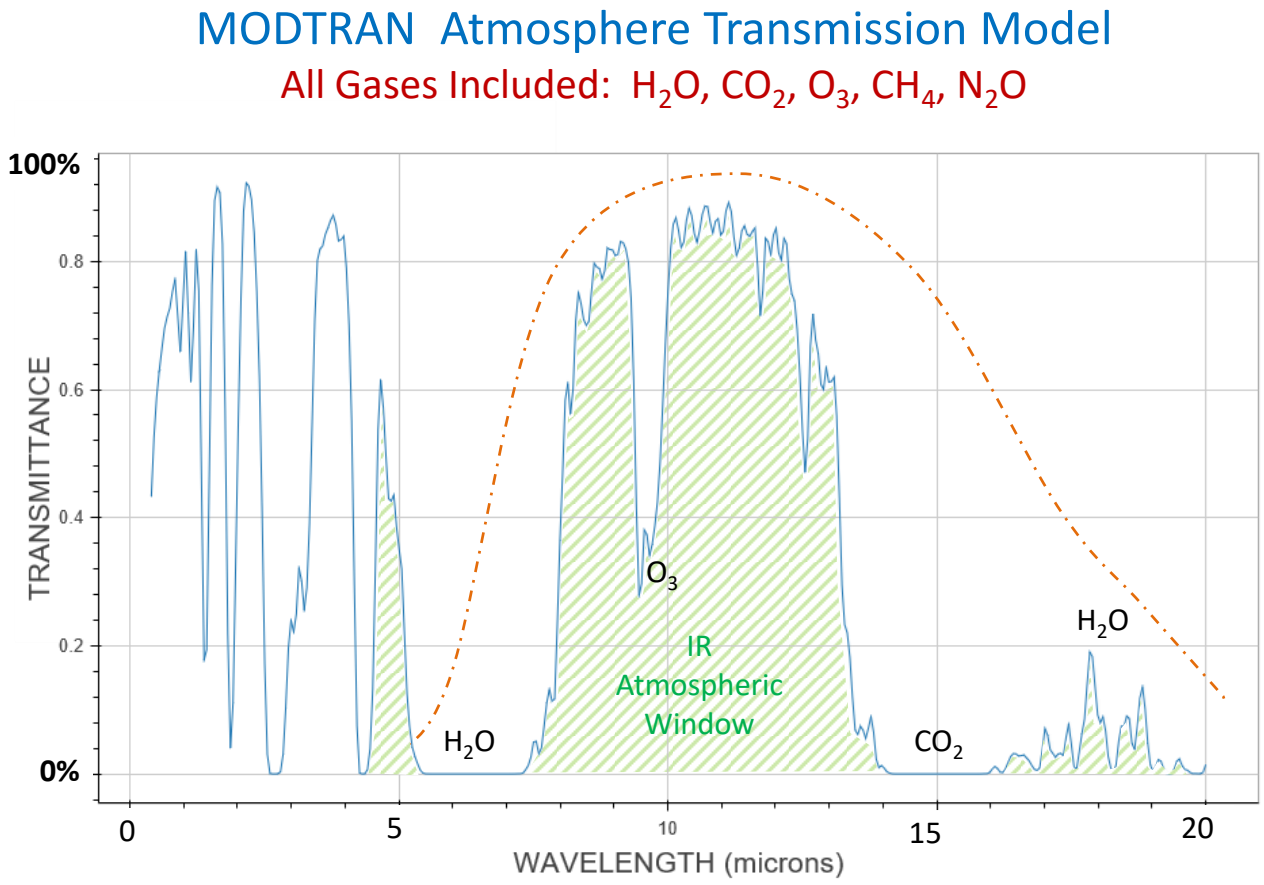
Purely optional, of course, but it may give you a feel for how the atmosphere works.

Two places where free on-line implementations are available:

1. **For simple Atmospheric Transmission** – calculating how much Infrared radiation passes through the full atmosphere from surface to space when you change the gases.

   http://modtran.spectral.com/modtran_home

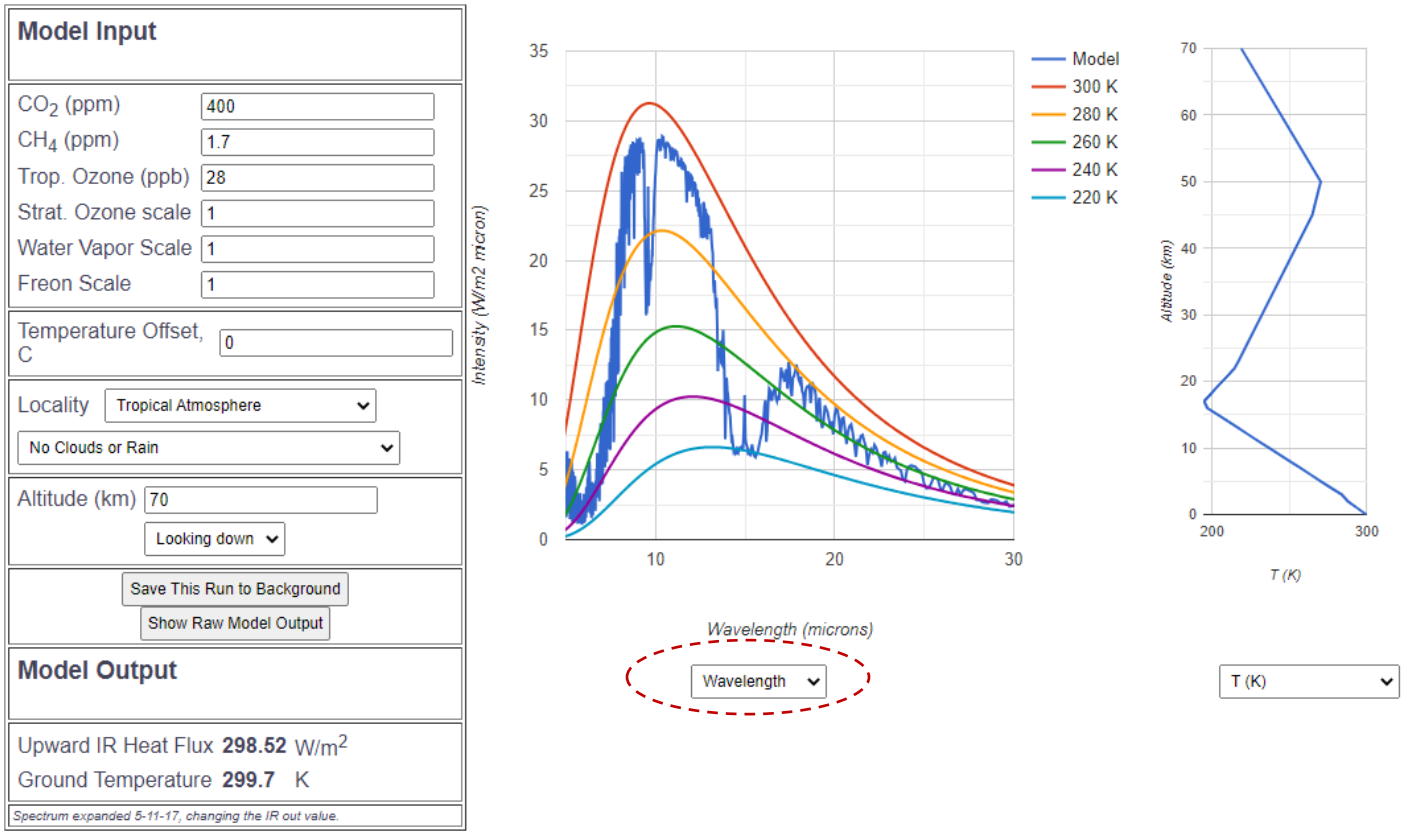
   Hint: Be sure to move **Spectral Range** slider all the way over to 20 microns.



2. For calculating **IR Radiation amounts going up or down at different altitudes**:
   This is hosted by the University of Chicago.
   You can specify the surface temperature, atmosphere composition, etc. and see how much IR escapes to space -- or how much reaches any specified altitude, upward or downward.

   http://ClimateModels.uchicago.edu/modtran/

   Hint: You may want to change Wavenumber to **Wavelength** using the dropdown list.



Note: There are also many other interesting Climate models available at
www.ClimateModels.uchicago.edu