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We report on recent efforts aimed at bringing climate modeling into the sophomore ODE course. Energy balance models focus on major climate components, including incoming solar radiation, planetary albedo, and outgoing longwave radiation. First order autonomous ODEs arise naturally when the dependent variable is global average surface temperature. The role played by atmospheric greenhouse gases in warming our planet is easily incorporated into the models. Bifurcations of equilibrium points occur as physically relevant parameters are varied. Examples of corresponding student activities will be presented. We also provide a brief report on student reaction to this material. (Received August 09, 2013)