Fig. 4. The dashed, dotted, and solid lines show the thermal equilibrium with a critical lapse rate of 6.5 deg km\(^{-1}\), a dry-adiabatic critical lapse rate (10 deg km\(^{-1}\)), and pure radiative equilibrium.
Radiative forcing is the change in the net, downward minus upward, irradiance (expressed in $\text{W m}^{-2}$) at the tropopause due to a change in an external driver of climate change, such as, for example, a change in the concentration of carbon dioxide. Radiative forcing is computed with all tropospheric properties held fixed at their unperturbed values, and after allowing for stratospheric temperatures, if perturbed, to readjust to radiative-dynamical equilibrium. For the purposes of this report, radiative forcing is further defined as the change relative to the year 1750 and, unless otherwise noted, refers to a global and annual average value. The boundary between the troposphere and the stratosphere varying in altitude from approximately 8 kilometers (5 miles) at the poles to approximately 18 kilometers (11 miles) at the equator.
What are climate models?