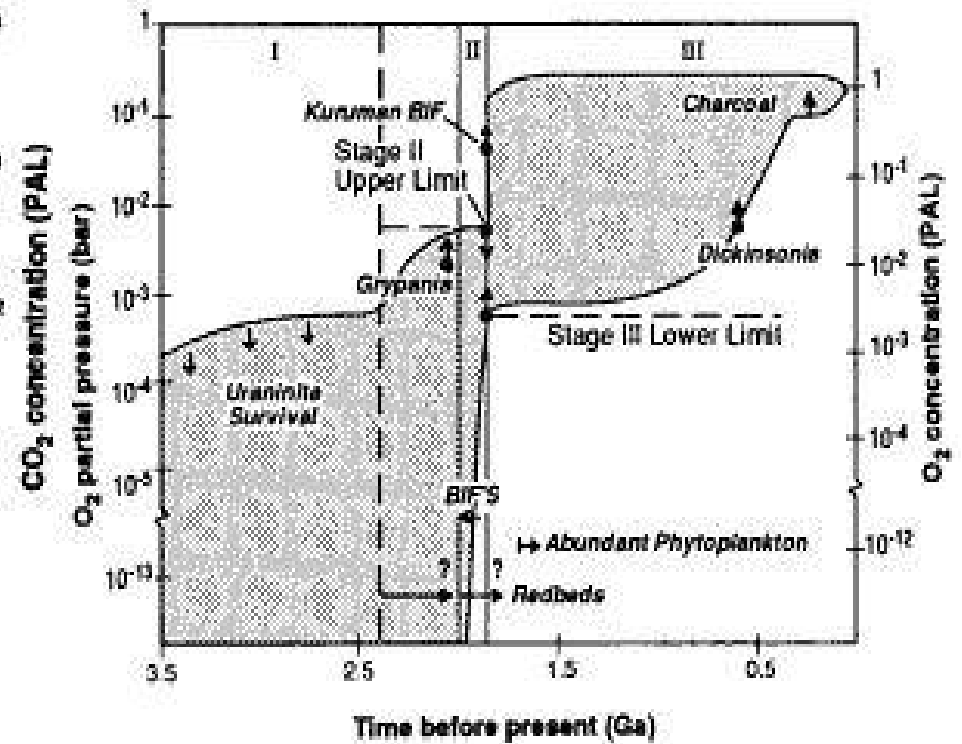
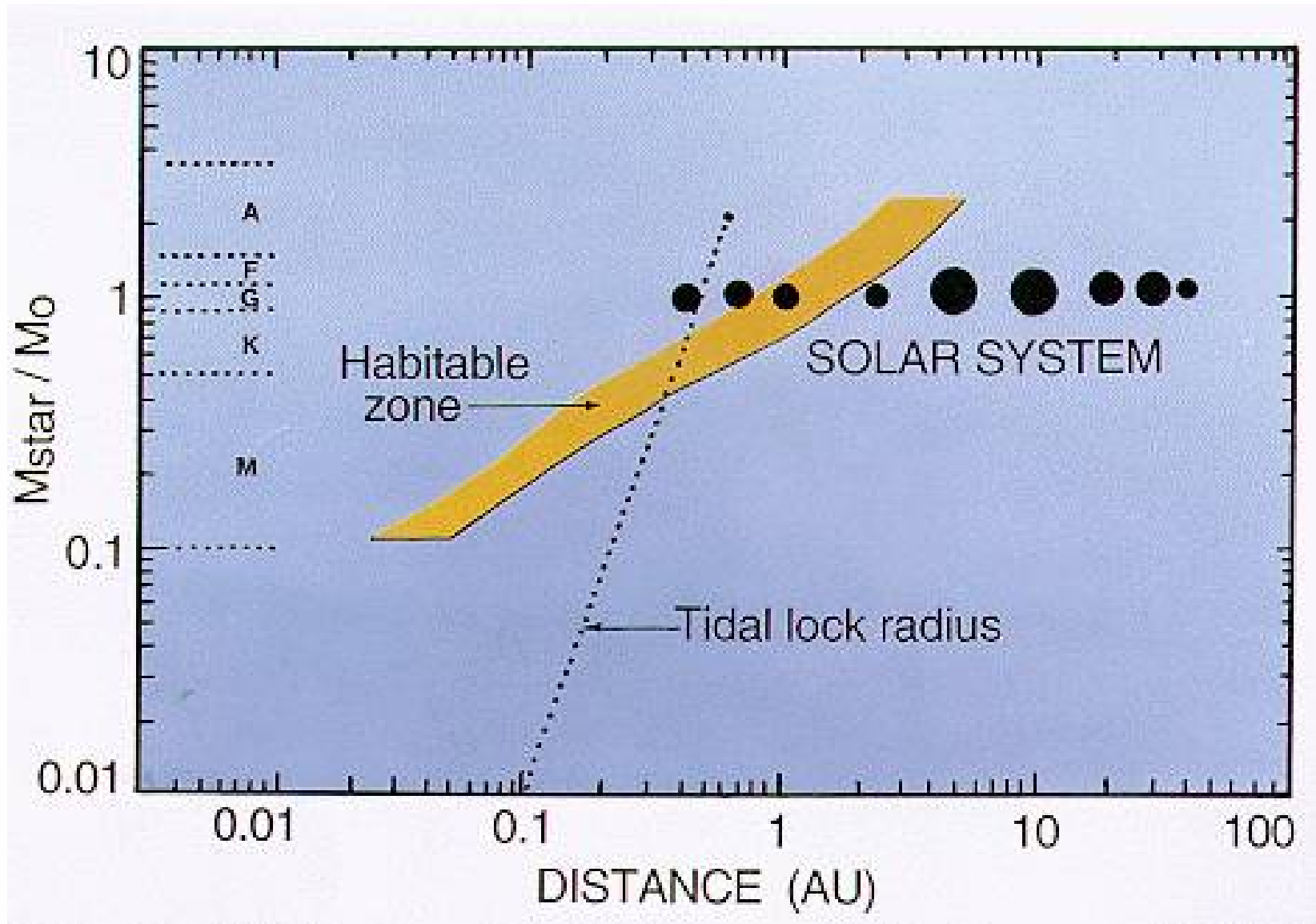


Plot showing evolution of CO₂ in the earth atmosphere – dark lines denote periods of intense glaciation. The CO₂ in the earlier atmosphere was expected to be greater, due to the fact that the sun was dimmer (the so-called faint sun paradox). Also quantities of other greenhouse gases, for Example NH₃, can explain the smaller amount of gas. This diagram is taken from J. S. Kasting, *Precambrian Research* 34, 205 (1987).



Plot showing evolution of O₂ in the earth atmosphere. The important point to note is that with the development of abundant phytoplankton 2 billion years ago, the oxygen concentration in the atmosphere shot up. This plot is taken from J. S. Kasting, *Science* 259, 920 (1993).



Continuously habitable zones according to stabilization by the carbonate-silicate-(life) geochemical cycle, showing also the limit for tidal locking by the parent star.