



History of Atmospheric CO<sub>2</sub> through geological time (past 550 million years: from Berner, **Science**, 1997). The parameter RCO<sub>2</sub> is defined as the ratio of the mass of CO<sub>2</sub> in the atmosphere at some time in the past to that at present (with a pre-industrial value of 300 parts per million). The heavier line joining small squares represents the best estimate of past atmospheric CO<sub>2</sub> levels based on geochemical modeling and updated to have the effect of land plants on weathering introduced 380 to 350 million years ago. The shaded area encloses the approximate range of error of the modeling based on sensitivity analysis. Vertical bars represent independent estimates of CO<sub>2</sub> level based on the study of ancient soils.