1035-00-1677 **Maximilian Auffhammer*** (auffhammer@berkeley.edu), Agricultural and Resource Economics, 207 Giannini Hall #3310, Berkeley, CA 94720. *The Challenge of Measuring and Modeling the Economic Impacts of Climate Change.*

The economic impacts of climate change are the net costs or benefits from such climatic change on the global economy relative to a world with constant climate. Economic impacts are usually measured relative to a "pre-industrial" average climate (1750-1850). Due to the lack of controlled experiments, economists employ statistical models on historically observed weather and climate in order to extract the climate response of e.g. agricultural yields, mortality rates and energy demand. These response functions are linked with global circulation models in order to simulate future values of these variables. In order to calculate impacts, one compares the observed outcomes to the simulated outcomes. The use of weather station data in estimation and climate model output in simulation creates potential biases in the estimated impacts. Further, predicted impacts suffer from potential overestimation, since they do not take into account agents' ability to adapt to a changed climate. In addition, existing simulation models only allow for very simplistic feedback mechanisms between the economy and future climate via emissions. Impacts of societal changes on other relevant physical aspects (e.g. albedo changes) are currently not taken into account. (Received September 20, 2007)