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Mary Fanett Wheeler* (mfw@ices.utexas.edu), The University of Texas at Austin, 201 East 24th Street, Austin, TX 78712. *Role of Computational Science in Protecting the Environment: Geological Storage of CO₂*.

Simulation of field-scale CO₂ sequestration (which is defined as the capture, separation and long-term storage of CO₂ for environmental purposes) has gained significant importance in recent times. Here we discuss mathematical and computational formulations for describing reservoir characterization and evaluation of long term CO₂ storage in saline aquifers as well as current computational capabilities and challenges. (Received September 15, 2010)