

### Variation in concentration of dissolved silica with depth

This plot shows concentrations of dissolved silica ( $\text{SiO}_2(\text{aq})$ ) as a function of depth in groundwaters in the state of Georgia in the southeastern United States. Concentrations of dissolved silica in equilibrium with quartz (dark curves) were calculated using the equation of Rimstidt (1997, *Geochimica et Cosmochimica Acta* v. 61 p. 2553-2558). The calculations assume geothermal gradients of  $10^\circ\text{C}/\text{km}$  to  $30^\circ\text{C}/\text{km}$ , as suggested by the maps of Kron and Stix (1982) and Kron et al. (1991), and a surface temperature of  $15^\circ\text{C}$ . The data plotted are from the dataset of Railsback et al. (1996).

The most striking observation from these data is that most near-surface waters are super-saturated with respect to quartz, whereas only the waters at depth, and thus presumably the older waters, have average concentrations at or near equilibrium with quartz.

