Subsidence

The subsidence rate, $\psi_{jt}$, is influenced by water extraction pressure. This is implemented by assuming that the rate of subsidence, $\psi_{jt}$, changes over time with:

$$\psi_{j(T+1)} = \psi_{jT} \frac{Q_{Zt}}{Q_{Z1}}, \quad (21)$$

where $Q_{Zt}$ and $Q_{Z1}$ are the total number of wells inside aquifer Z, at time $t$, and time 1 respectively, and are formally calculated using:

$$Q_{Zt} = \sum_{\forall j: Z_j \in Z} q_{jt} \quad (22)$$

Where $q_{jt}$, is the number of wells in census-block $j$ at time $t$, and $Z_j$ identifies the aquifer in which the census-block $j$ belongs to.