

## What Goes Up Must Come Down

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### ABSTRACT

Upconing of saltwater below a pumping well is a well known phenomenon in seawater intrusion. On the contrary, hardly anybody ever talks about the transient downconing that often occurs simultaneously with the upconing. Transient downconing does not occur right below the well, of course, but in a circular area around the well. The concept of transient downconing actually makes a lot of sense. Saltwater can only move upward below a pumping well if it simultaneously moves downward a little distance away from the well, as no new saltwater can flow towards the well instantaneously. Eventually, saltwater will flow to the well and the downconing recedes; downconing does not occur in steady state solutions.

In this presentation, the concept of downconing is explained and analyzed, and conditions are given for when downconing occurs and for how long. Finally, results are presented from a search for observed downconing in the field.

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