

Cellular Automata (1): General & Overview Papers

Camara, Antonio, Francisco Ferreira, and Paulo Castro. 1996. Spatial simulation modelling. In *Spatial analytical perspectives on GIS: GISDATA 4*. Eds. Manfred Fischer, Henk J. Scholten, and David Unwin, 201-12. London: Taylor & Francis. One of the few papers I know that take the trouble to compare the output of CA models with that of more traditional models of the same phenomena (in this case: waterquality, predator-prey, fire spread). Short and useful!

Couclelis, Helen. 1985. Cellular worlds: a framework for modelling micro-macro dynamics. *Environment and Planning A* 17: 585-96. Quite possibly the earliest paper on CA in the geography literature. You will see it cited a lot as part of the history of the field, so here it is.

———. 1987. Of mice and men: what rodent populations can teach us about complex spatial dynamics. *Environment and Planning A* 20: 99-109. Another early and widely cited paper on CA. I believe the points it makes are still valid. It was great fun to write and I hope it's fun to read!

Horgan, John. 1995. From complexity to perplexity: can science achieve a unified theory of complex systems? *Scientific American*, June: 104-9. Don't buy all that hype about complexity. Is this all an over-inflated shiny bubble about to burst?... Not specifically about CA but about the whole 'paradigm' that gave us CA.

Roy, Geoffrey G., and Folke Snickars. 1996. CityLife: a study of cellular automata in urban dynamics. In *Spatial analytical perspectives on GIS: GISDATA 4*. Eds. Manfred Fischer, Henk J. Scholten, and David Unwin, 213-28. London: Taylor & Francis. As far as CA-based urban models go we can do better than this. But it's simple, has some interesting features (distance decay function for cell interactions, experiments with changing assumptions) - and a great name!

Wolfram, Stephen. 1984. Cellular automata as models of complexity. *Nature* 311, no. 4: 419-24. By the Wunderkind of cellular automata research, an article summarizing his work on CA as complex dynamic systems. Goes over some of the material we discussed last Monday (automata, languages and computation).