



A snakes and ladders board game on the water cycle from the perspective of an Alpine area

Massimiliano Zappa

Swiss Federal Research Institute WSL, Mountain Hydrology and Mass Movements, Birmensdorf, Switzerland
(massimiliano.zappa@wsl.ch)

Back in 1997 I just completed my first year of MsC at ETH Zürich. My much younger sister was seven-year old and had no real clue on why I was sitting all the time in Zürich and why I was so fascinated by flooding rivers. During summer holidays we were staying for two weeks in a nice Alp in southern Switzerland. As it was raining all the time and I was bored by the small board games collection there, I decided to translate my current knowledge of the water cycle in an Alpine region into a board game.

I designed a mountainous landscape and the flow of water from rivers into the ocean. I added glaciers, clouds, precipitation, winds, vegetation, groundwater extraction, runoff processes, free water evaporation, water use and a couple of other process. Water drops start from the ocean and first need to evaporate. They might stay quite long there or suddenly be in a cloud and move fast with the help of winds and reach the mountains. Two dices and some tokens (water drops) are needed to play. The first dice is needed to decide how quick a water drop is moving. The second one assesses which direction the water drop is taking (e.g. stay in the soil or being taken up by the roots). Most of the time (and my girlfriend then and wife now more often than anybody) the water drops arrived on the glacier and stayed there for ages. Winner is the one having the own drop arriving back into the ocean after being in the soil at least one time.

We played it some times and after that my sister had no further questions about my academic training. In the early 2000s I made a couple of calls to a game publisher, but never really pushed at making it available. I wrote down the rules in Italian with Word 2.0 and stored them on a 3 1/2" floppy disk. Currently I have only a printed copy of the rules.

The game was then archived for a good decade in my parents cellar. Every now and then we moved some stuff and found it back. In recent years it seemed having vanished. I wanted badly to play it with my kids, but we were not able to find it. Then in December 2017 my father exhumed it from a drawer and brought it back to me, just in time to present it at EGU 2018.

I need to acknowledge here that the game might need some revisions now. As climate change is affecting the water cycle I will have to update the glacier part and introduce drought risk. Hydropower is also missing. Maybe playing it at EGU 2018 will give some push to publish it and make it available for science communication. Up to then "Alea jacta est".