

Supplementary Material

Photos of the laboratory setup are presented in Figures A1 and A2 for experiments 1 and 2, respectively.



Figure A1: Setup of experiment 1, i.e., without bottom obstacles.

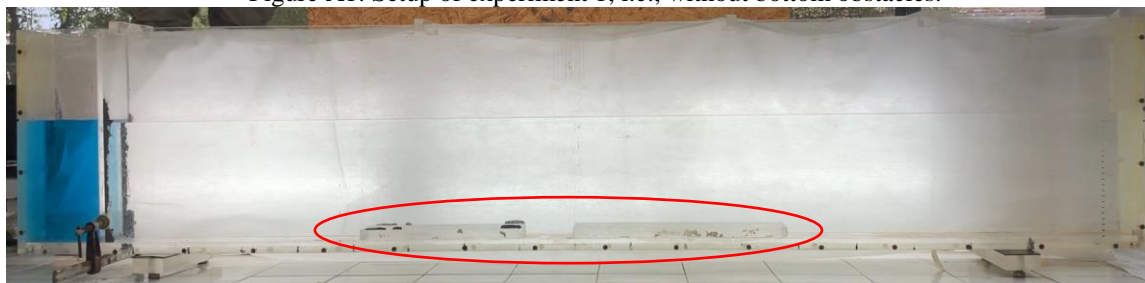


Figure A2: Setup of experiment 2. Bottom obstacles are enclosed in the red oval.

In Figure A3, it is shown the current head propagating in the channel without the presence of obstacles, while Figure A4 shows three phases of the gravity current propagation over the two bottom obstacles.



Figure A3: Gravity current in experiment 1.

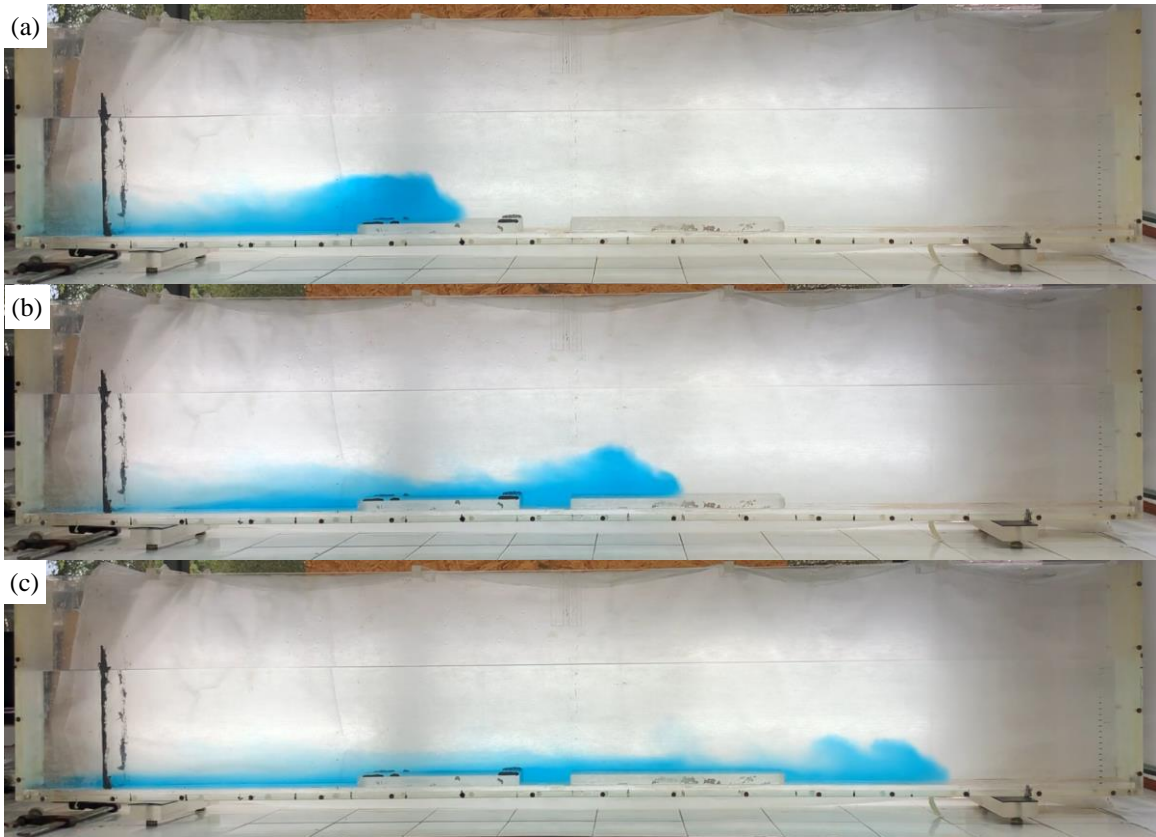


Figure A4: Various phases of the gravity current in experiment 2. Current head over the first obstacle (a); current head over the second obstacle (b); and current head past both obstacles (c).

Finally, Figure A5 is a detailed view of the interaction of the gravity current with the obstacle corners. The flow feature in Figure A5 (a) is also present when the current head steps into the second obstacle after crossing the gap between the obstacles. A similar recirculation zone to that of Figure A5 (b) is formed at the end of the second obstacle.

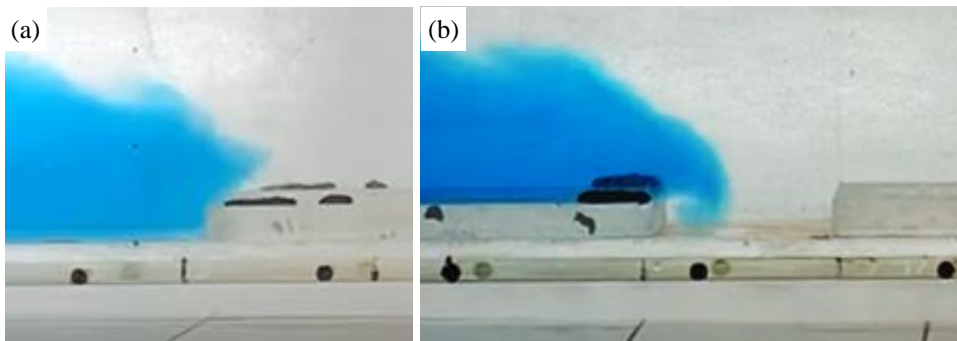


Figure A5: Gravity current stepping into the first obstacle (a) and recirculation between two consecutive obstacles (b).