1. Testcase included in the code

1.1. TESTCASE 1: Periodic Convergence Test

1.2. TESTCASE 2: Well Balanced Test with Discontinous Bottom

1.3. TESTCASE 3: Entropy Glitch Test

1.4. TESTCASE 20: Partial Dam Break (CARTESIAN)

Note: interior boundary conditions for partial dam are hacked in Mesh.cpp

1.5. TESTCASE 30: Steep Dam Break - Test for Shock Capturing // Limiting

1.6. TESTCASE 31: 2D Oscillating Lake // Parabolic Bowl

1.7. TESTCASE 32: Flooding over 3 Mounds

1.8. TESTCASE 33: Dam Break over 3 Mounds

1.9. TESTCASE 34: Dam Break over 3 Mounds

1.10. TESTCASE 35: 2D solitary wave runup

$$\begin{aligned} &h(x,y,0) = \max\left(0, h_0 + \frac{A}{h_0}\mathrm{sech}^2(\gamma(x-x_c)) - b(x,y)\right), \\ &u = v = 0, \end{aligned} \tag{1.1}$$

where the parameters are set to $A = 0.064m$, $x_c = 2.5m$, $h_0 = 0.32m$, $\gamma = \sqrt{\frac{3A}{4h_0}}$. The bottom topography is a cone and defined by

$$b(x,y) = 0.93\left(1 - \frac{r}{r_c}\right) \qquad \text{if } r \le r_c \tag{1.2}$$

with $r = \sqrt{(x-x_c)^2 + (y-y_c)}$, $r_c = 3.6m$ and $(x_c, y_c) = (12.5, 15)$. The domain is $\Omega = [0,25] \times [0,30]$ and bounded by solid wall boundary conditions.

1.11. TESTCASE 36: 1D Bowl (2D Version)

1.12. TESTCASE 43: Curved Dam Break PARTIAL

Note: interior boundary conditions for partial dam are hacked in Mesh.cpp

1.13. TESTCASE 44: Curved Dam Break FULL

1.14. TESTCASE 45: Curved Dam Break Setup - NO BREAK (WB test)

Note: interior boundary conditions for full dam are hacked in Mesh.cpp