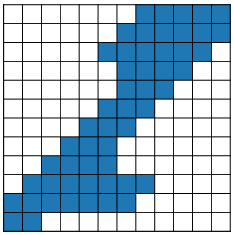
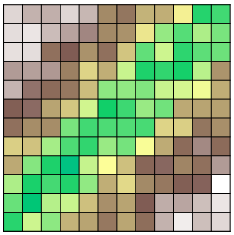
I) Inputs

Mandatory inputs

Flood map

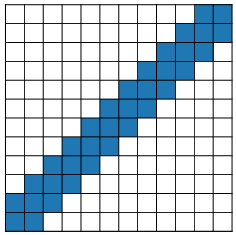


Digital Elevation Model (DEM)

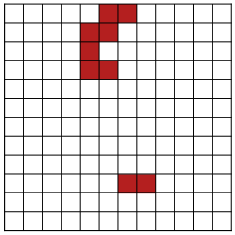


Optional inputs

Permanent water



Exclusion layer

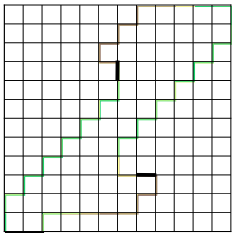


II) Water depth methods

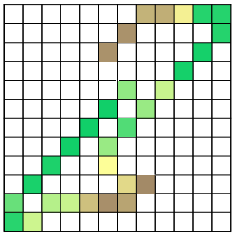
1) Flood Water Depth Estimation Tool (Fw-DET)

a) Identify border pixels and remove cells above a slope threshold (black)
b) Retrieve border elevation
c) Propagate elevation to inner cells
d) Smoothing the values
e) Subtract elevation to DEM

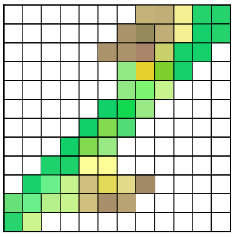
(a) +(b)



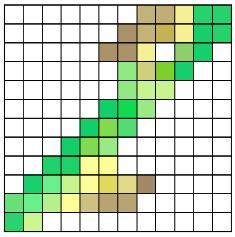
(c) Iteration 1



(c) Final iteration



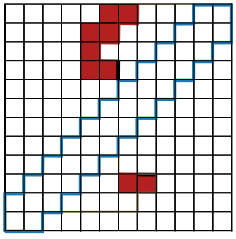
(d) Smoothing



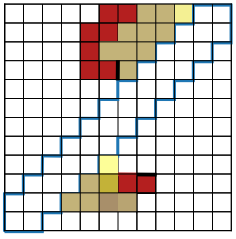
2) FLEXTH

a) Identify valid boundaries excluding: slope threshold (black), permanent water (blue) or within exclusion layer (red)
b) Retrieve border elevation and propagate in flooded areas (except exclusion layer)
c) Flood expansion in the exclusion layer

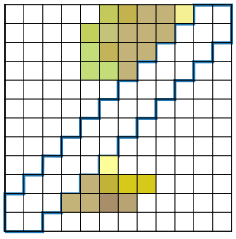
(a)



(b)



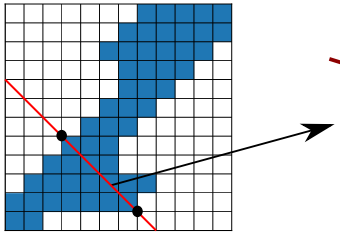
(c)



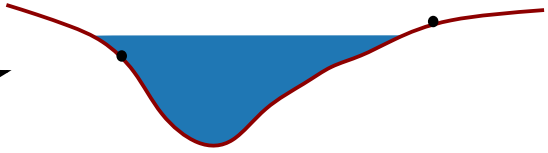
3) Cross-section analysis

a) Identify wet/dry interface (black) on river cross-section (red)
b) Compute the mean of the border elevations and consider flat surface

(a)

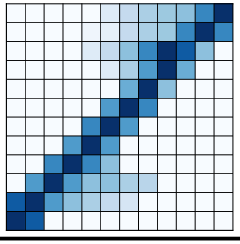
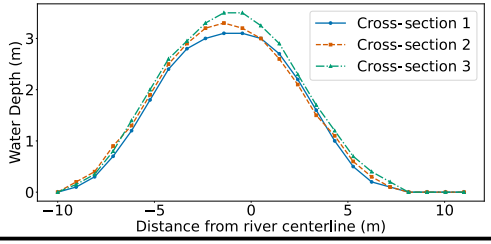


(b)



III) Water depth estimation

2D water depth field



Cross-section water depth