

DigiBog model outputs. Description of data structure for column heights and water-table depths.

Two DigiBog model output files are included in this repository. They are the outputs from a model run from the VNP Peatland Tipping Points project (see Linking ecosystem changes to their social outcomes: lost in translation, 2021, *Ecosystem Services*).

Simulation information

- Runtime – 5,100 years
- Mineral layer thickness – 5.0 cm (peat builds on top of this layer, which is included in the column height output)
- After 4,900 years six ditches were created with a water-table depth of 60.0 cm.
- After 5,000 years, to simulate restoration, the water-table in the ditched columns was set to 10.0 cm below the surface of the adjoining downslope column.
- The simulation was allowed to continue to 5,100 years.
- Units are centimetres (cm) for both files.
- Negative water-table depths indicate surface ponding.

File structure

- The simulated peatland is a transect of 100 x 2 m x 2 m columns. There is a boundary condition at each end of the transect and along its sides. Therefore, in total, there are 306 values (100 + 2, the main transect) x 3 (including the two sets of boundary conditions along the transect sides) for each write out of the data. See this paper (<https://agupubs.onlinelibrary.wiley.com/doi/pdf/10.1002/2016WR019898>) for an overview of how the model can be set up.
- The simulation is said to have the following structure: $x = 3$, $y = 102$. x_2, y_2 is the first active peat column of the simulation.
- The data was written out in the sequence x_1, y_1 ; x_1, y_2 ; x_1, y_3 ; x_1, y_n ; x_2, y_1 ; x_2, y_2 ; x_2, y_3 ; x_2, y_n etc.
- The data were written out every year. Therefore, each file contains 1,560,600 values (306 x 5,100 years).
- Boundary condition column values are written out as -999.0.
- When a ditch is added, the column becomes a boundary condition and, after this happens, the column data is written out as -999.0.