Teaching with 3D printed terrain models - how to get started

Wednesday, Jul. 13, 2022. 1:30pm-4:00pm Appleby 3

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Program

1:30 Welcome and introductions (Who are you, what do you teach, what do you hope to get out of this workshop?)

1:40 Introduction to 3D filament based printing technology (incl. live demonstration)

1:55 Detailed walk through on how to use the TouchTerrain web app to create high-resolution (and free) terrain models (**Participants with laptops are encouraged to follow along!**)

2:15 Break

2:25 Quick look at live 3D printing

2:30 Look at examples of large (400 x 400 mm) 3D printed terrain models I have created of the last years (includes giving away some terrain models!)

2:50 Examples of teaching with 3D printed terrain (geology curriculum), some using the 3D printed models shown earlier

3:05 Break

3:15 Participants develop ideas for how to incorporate 3D terrain prints into their own teaching

1. Split into 3 - 5 groups, guided be similar backgrounds and/or teaching interests
2. Brainstorm possible applications for teaching: didactic purpose, setting, area/data needed, limitations (20 min)
3. Quick presentation to the whole group, consider technical (3d printing) requirements and practical feasibility
4. Closing thoughts

3:55 Fill out workshop evaluations

4:00 Adjourn

Worksheet for 3D terrain model exercise development (3:15 – 3:55)

Group name:

Group members:

- What would the exercise be called?

- (Briefly: what would the setting(s) be)?

- What would be the main(!) tasks?

- What level of interaction with the 3D model?
  - "Inform from afar" (e.g. just looking at it, maybe in a group, but not "driving" it?
  - Direct interaction: hold it, rotate it, flip open profiles, assemble multi-part models
  - Annotation: draw/paint on it

- What would be the "killer role" for the 3D model? What could it do well that other tools cannot?

- What would you need (technically, ideally, at a minimum) to make this work?

- What are the main hurdles and how could they be overcome? (I may be able to help with this!)

- How large would the 3D prints need to be? Any idea of the area?

- Should/must 3D models be combined with other tools (e.g. topo maps, iPads)

- How to measure success?

- Additional notes and details

- Summary: