

Kadia Miller

Arch 565 Journal

Typical Work Flow

Journal 01
01.17.2025



Journal



Conceptual
Physical
Models for
Iterations



Digital
Modeling



Editing

Form and Forces

John Ochsendorf

Building a bridge - based in Peru
Day 3 - the bridge is complete and
resembles a basket

Tile Vaulting
(Catalan vaults)

Catalan architecture

Gaudi

origins near Valencia, Spain

Fray Domingo de Petres

1" layer of tile thick - double
curvature + amazing load capacity

Guastavino spiral stairs - tile stairs
dome spanning 190 ft. - each day
add rings and cantilever and held the
worker's weight

this reminds me of Brunelleschi's
duomo in Florence.

1961-65 Cuban Art School - long
form vaults and domes + sagrada
familia being built with this same
technology

Colonia Guell Hanging Model, near
Barcelona

Alex Jordan developed a program
to bring gravity into the design
environment - gravity free isn't real.

we have lots of analysis tools - not
many design tools.

compressive forces in a spiral stair -
thrust network analysis as a design
tool.

constructability is part of the design
process !!

Initial Design

Journal 02
01.23.2025

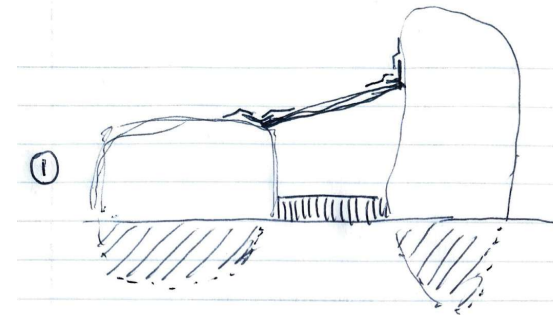
Location of Project: Rock field driving out to Natural Bridge Climbing Area.
Topology of Project: Bouldering microhotel for chilling and winter use.



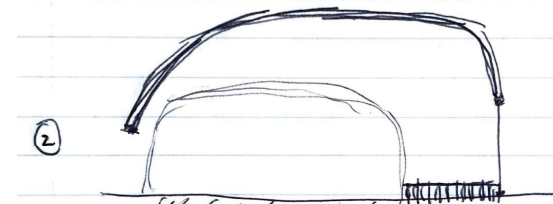
Inspiration



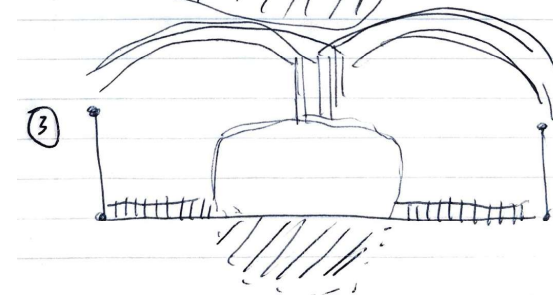
Actual Site from Google Maps



balancing in between
2 rocks - old foam for
the floor - some sort
of flashing to keep the
water out.



shell shape to cover
the rock + climbing
area.



use the rock as the
structural element and
form some parametric
shape out.

LiDAR Data

Journal 03
02.07.2025

Tried really hard to get the LiDAR data from Montana Lidar Inventory but I couldn't get anything to download even though it is in green and says it has been completed.

Lidar Acquisition Status

This map depicts completed, in-progress, and planned lidar acquisitions. "Completed" (green) means the lidar has been flown, processed, and delivered. "In-progress" (blue) means lidar is currently being collected or the data are being processed and going through quality control. "Planned" (yellow) means the area is expected to be collected in the near future (~1 year). If you are interested in an area adjacent to a planned collection, you should contact the organization listed about potentially partnering. There may be opportunities to work with the lidar vendor to expand the collection.

Click on a project area to view additional information, such as project name, collection dates, and a link to the project report.

[Download the lidar acquisition status map in PDF format.](#)

[Download the lidar inventory in GIS format \(geodatabase or shapefile\).](#)

Status map and GIS data updated June 2024.

Completed Lidar Projects



In-Progress (Processing) Lidar Projects



Planned Lidar Projects

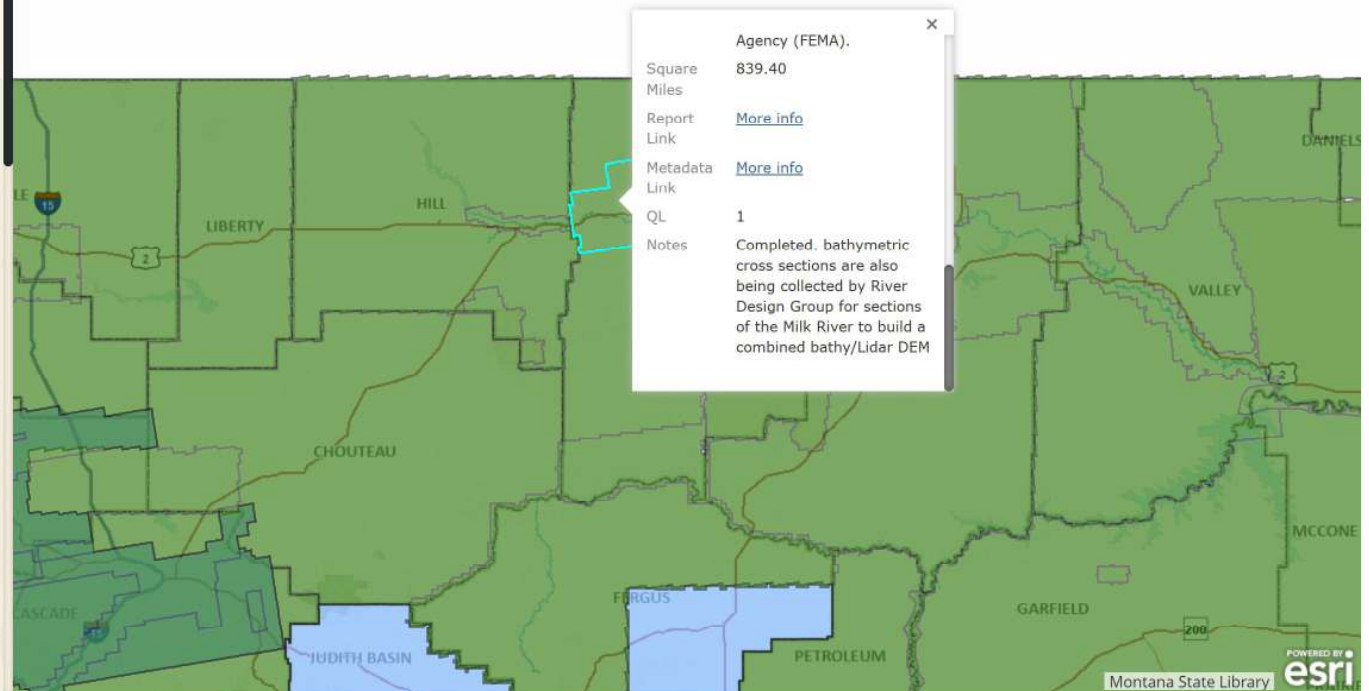


MontanaBaseMap

Political Entities

CountyLines

Counties

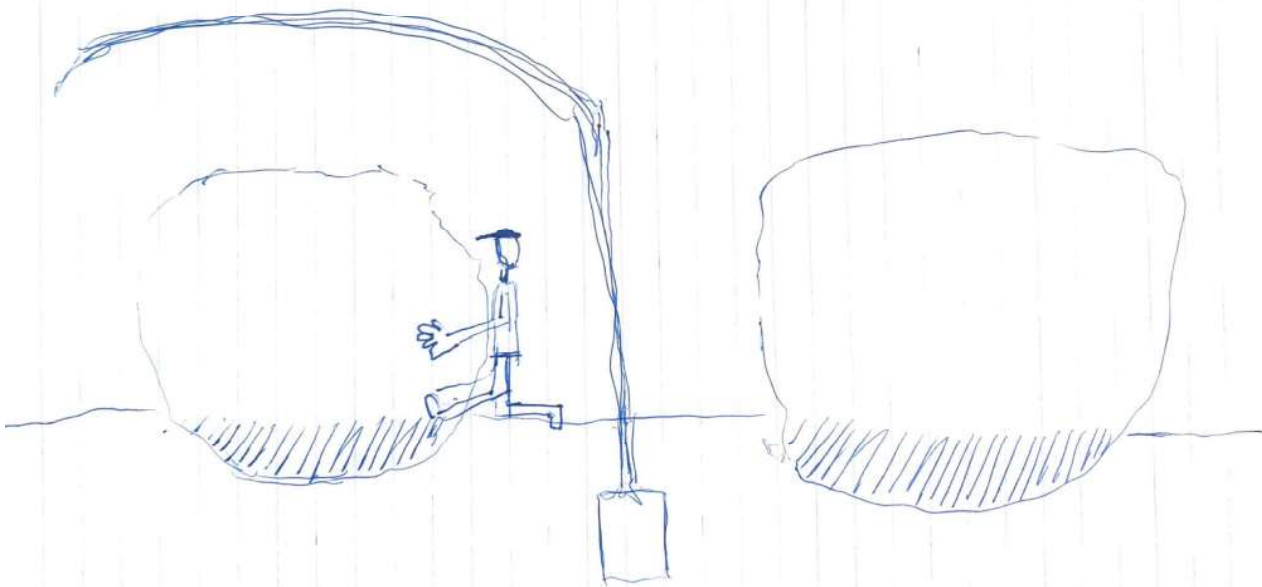


In-Depth Sketch

Journal 04
02.14.2025

More In-depth sketch of what I want to build in grasshopper.

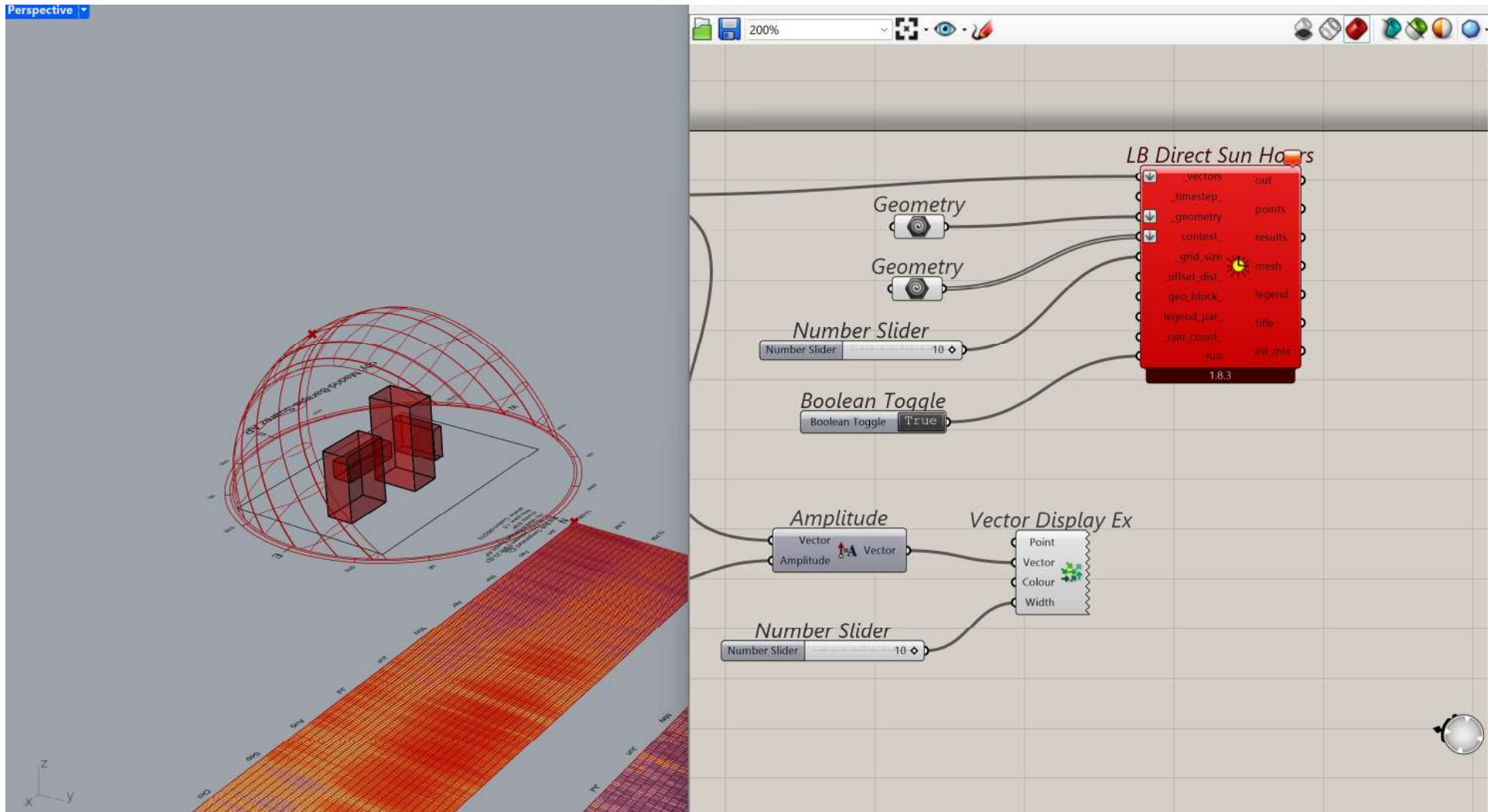
- step 1 : create rocks
- step 2 : create mesh that
covers rocks
- step 3 : create anchor system



Ladybug Plugin

Journal 05
02.21.2025

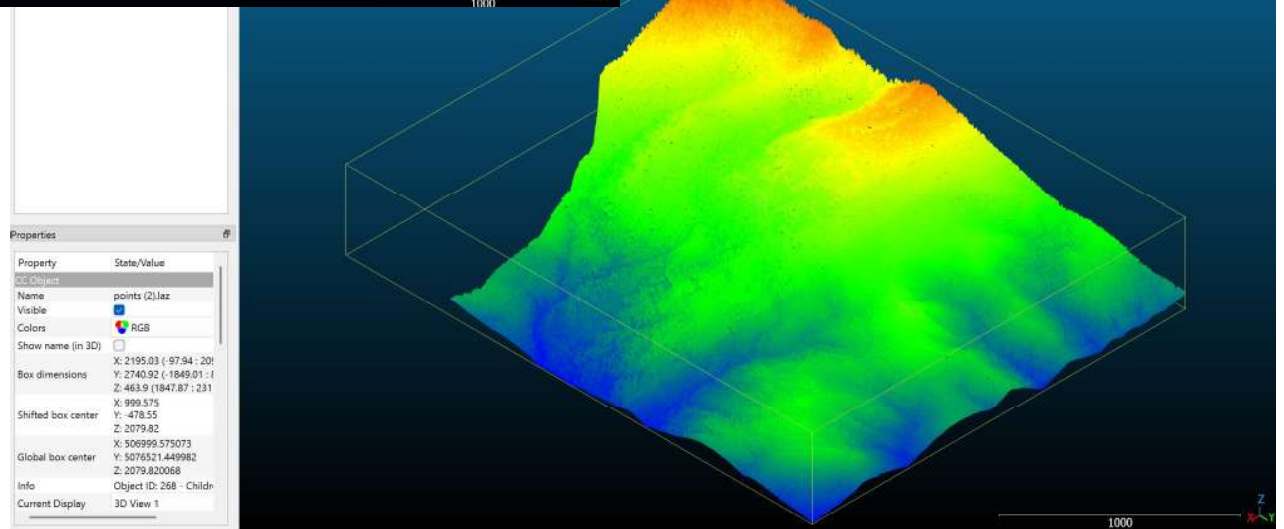
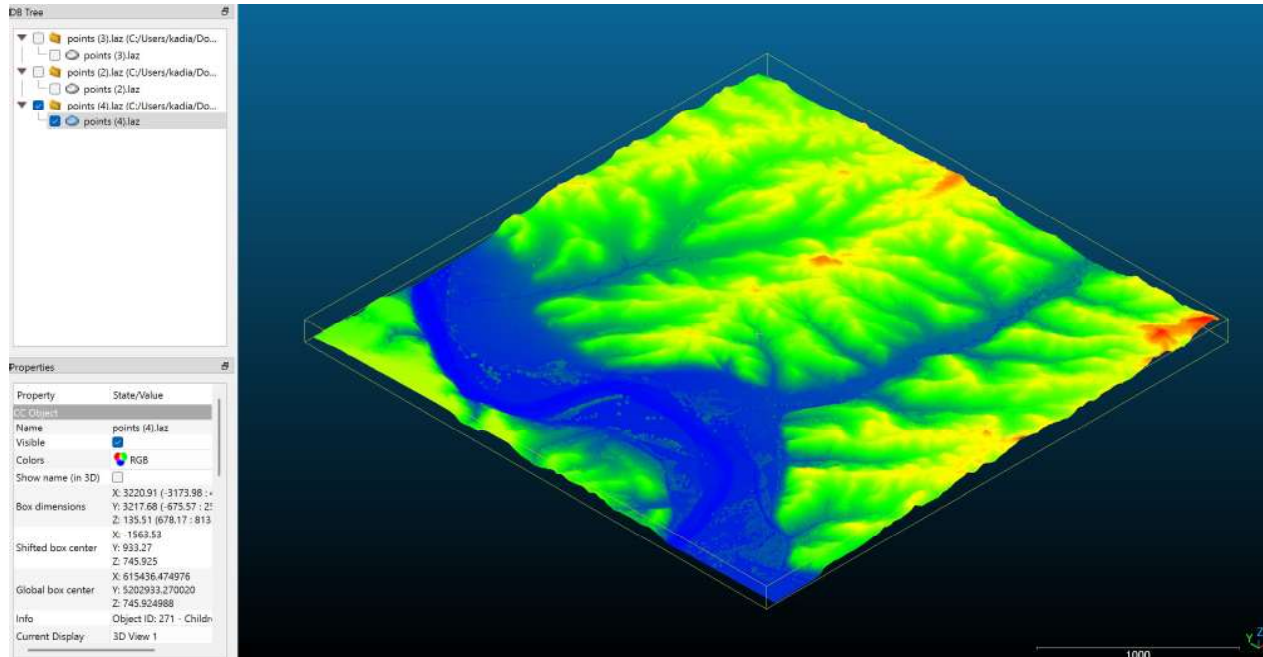
This is definitely been my most favorite tool I've learned in the class so far. I analyzed all of the different tools on the "LB Import EPW" and was trying to do the sun path diagram when I ran into a problem saying "1. Solution exception:'PolylineCurve' object has no attribute 'ToBrep'"



Topography

Journal 05
02.21.2025

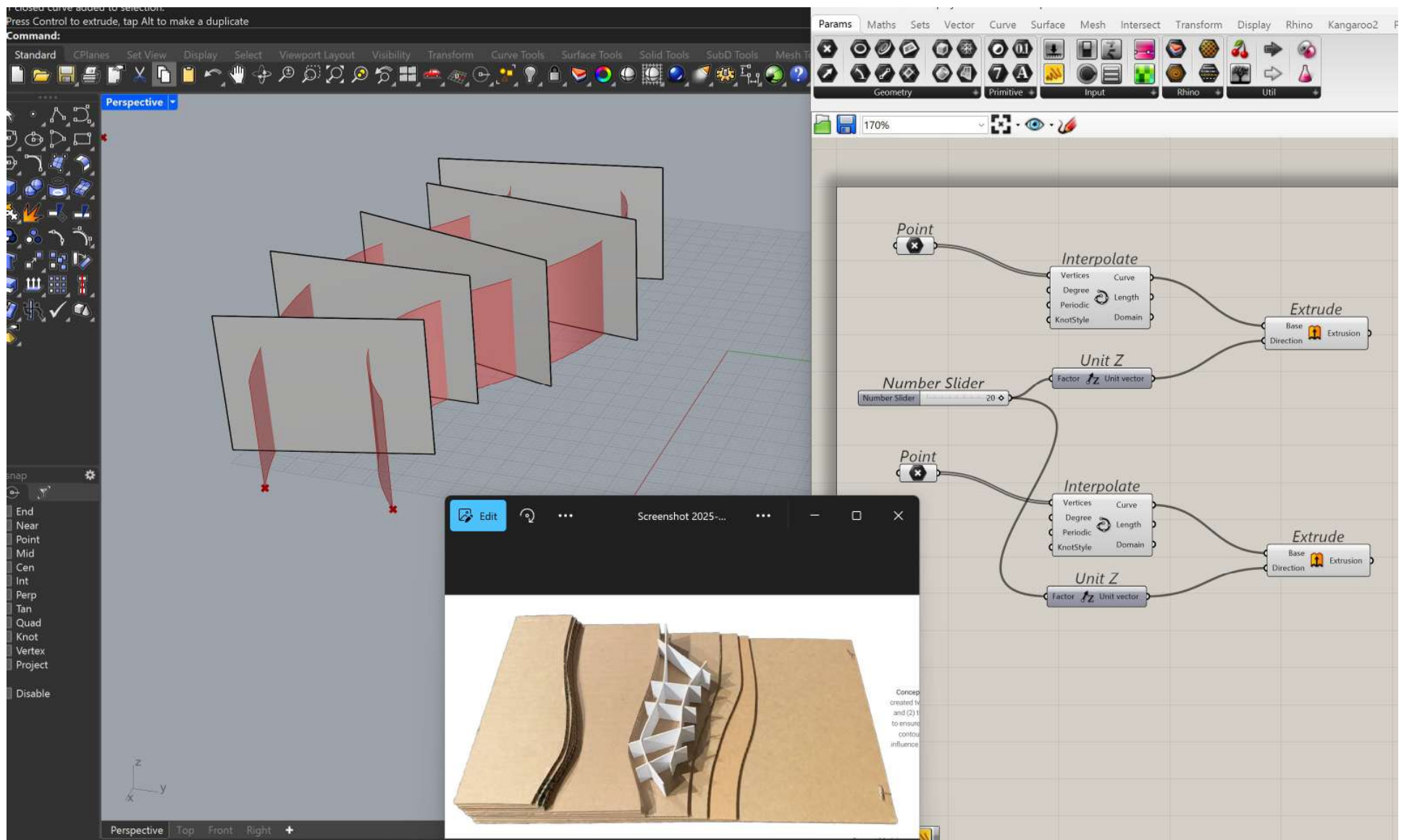
I got two different topography downloads into CloudCompare.



Grasshopper Script 1

Journal 06
03.01.2025

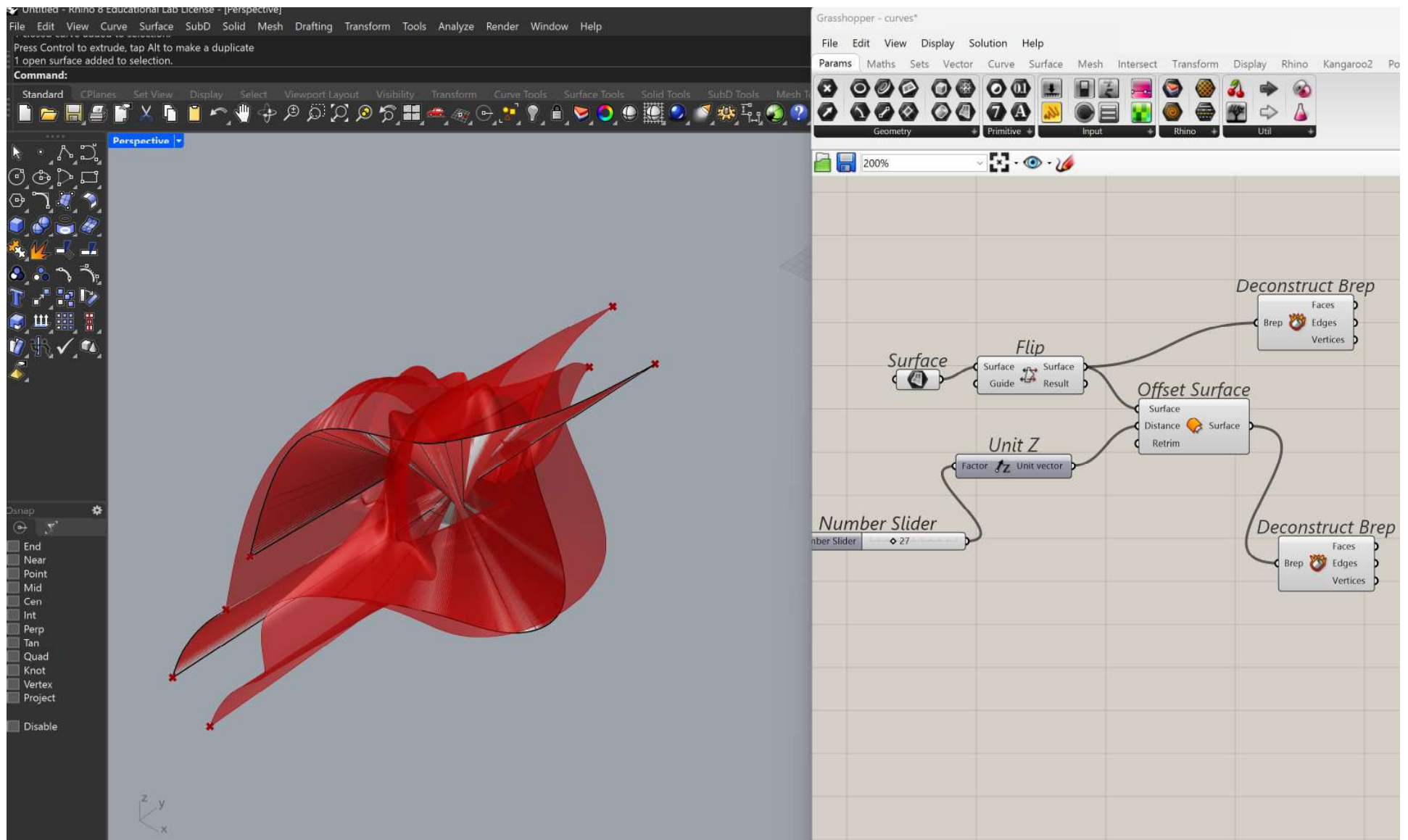
I recreate a physical model into a grasshopper script.



Grasshopper Script 2

Journal 06
03.01.2025

I watched a YouTube video to create this formation.



Grasshopper Script 2

Journal 06
03.01.2025

I watched a YouTube video to create this formation.

